UWATEC

User manual

Bedienungsanleitung

Manuel d'utilisation

Manuale d'uso

Instrucciones para el uso

Handleiding

Aladin TEC 2G

English

Deutsch

Français

Italiano

Español

Nederlands

Safety considerations

You must carefully read and understand this entire manual before using your Aladin TEC 2G.

WARNING

Diving has many inherent risks. Even if you follow the instructions of this manual in a careful manner, it is still possible that you may be seriously injured or die from decompression sickness, oxygen toxicity or some other inherent risk of scuba with Nitrox or compressed air. Unless you are fully aware of these risks and are willing to personally accept and assume responsibility for those risks, do not use Aladin TEC 2G.

Guidelines for the use of Aladin TEC 2G:

The following guidelines for using Aladin TEC 2G are derived from the latest medical research and the recommendations of the American Academy of Underwater Sciences for diving with diving computers. Following these guidelines will greatly increase your safety while diving, but cannot guarantee that decompression sickness or oxygen toxicity will not occur.

- Aladin TEC 2G is designed for dives with compressed air (21% O_2) and Nitrox (22 to 100% O_2) only. Do not use Aladin TEC 2G for dives made with other mixed gases.
- It is absolutely necessary to check the set mixture before each dive and to compare it to the gas mixture currently used. Always remember: setting an incorrect mixture carries an inherent risk of decompression sickness and/or oxygen toxicity! Maximum deviation from the measured mixture must not exceed 1%O_2. An incorrect gas mixture can be lethal!
- Only use Aladin TEC 2G with open circuit breathing systems.
- Only use Aladin TEC 2G for diving with an independent breathing apparatus. Aladin TEC 2G is not designed for long term exposures with Nitrox.
- Always observe the visual and audible alarm signals. Avoid situations of increased risk which are marked with a warning sign in this operating manual.
- Aladin TEC 2G has a ppO_2 warning. The default limit is set at 1.4bar ppO_2max. It can be changed between 1.2 and 1.6bar.
- Frequently check the "oxygen clock" (CNS O_2). Ascend and finish the dive if the CNS O_2 exceeds 75%.
- Never dive deeper than the Maximum Operating Depth (MOD) pertinent to the gas mixture in use.
- Always check the diving limits considering the oxygen content and standard sports diving procedures (decompression sickness, oxygen toxicity).
- In accordance with the recommended maximum diving limit of all instructional agencies, do not dive deeper than 40 metres/130 feet.
- The danger of nitrogen narcosis has to be taken into consideration. Aladin TEC 2G gives no warning about this.
- On all dives, with or without dive computer, make a safety stop for at least 3 minutes at 5 metres (15 feet).
- All divers using dive computers to plan dives and indicate or determine decompression status must use their own computer, which they take with them on all dives.
- If Aladin TEC 2G fails at any time during the dive, the dive must be terminated, and appropriate surfacing procedures (including a slow ascent and a 3 to 5 minute safety stop at 5 metres /15 feet) should be initiated immediately.
- Comply with the ascent rate and carry out any decompression stop required. If the computer should fail for any reason, you must ascend at a rate of 10m (30ft) per minute or less.
- On any given dive, both divers in a buddy pair must follow the most conservative dive computer for that particular dive.
- Never dive without a buddy. Aladin TEC 2G does not substitute for a dive buddy.
- Only make dives that are appropriate to your level of dive training. Aladin TEC 2G does not increase your knowledge of diving.
- Always dive with back-up instruments. Make sure that you always use back-up instrumentation including a depth gauge, submersible pressure gauge, digital bottom timer or dive watch, and have access to decompression tables whenever diving with a dive computer.
- Avoid repeated ascents and descents (yo yo diving).

- Avoid repeated heavy workload while at depth.
- Plan the dives to be shorter if they are made in cold water.
- After finishing the decompression or at the end of a no-stop dive, the final stage of the ascent should be as slow as possible.
- You MUST be familiar with all signs and symptoms of decompression sickness before using Aladin TEC 2G! Seek IMMEDIATE treatment for decompression sickness should any of these signs or symptoms occur after a dive! There is a direct correlation between the effectiveness of treatment and the delay between the onset of symptoms and the treatment for decompression sickness.
- Only dive with Nitrox after you have been thoroughly instructed by a recognised institution.

Repetitive dives

- Do not start your next dive before your CNS O_2% status has dropped below 40%.
- When diving with Nitrox, make sure your surface interval is long enough (just like diving with compressed air). Plan for a minimum surface interval of two hours. Oxygen, too, needs sufficient time to leave the body.
- Match gas mixture to the intended dive.
- Do not attempt a repetitive dive if the no-dive warning is visible on the display.
- Plan a day without diving once a week.
- If you have to change computers, wait at least 48 hours before carrying out your next dive.
- Diving after a reset of the remaining saturation (reset, see page 47, or battery replacement, see page 51) may lead you into potentially hazardous situations which could result in death or serious injury. After a reset of the remaining saturation do not dive for at least 48 hours.

Altitude and diving

- Do not dive at altitudes higher than 4000m (13000ft).
- After a dive do not rise to altitudes that Aladin TEC 2G prohibits via the flashing altitude range number (see page 29).

Flying after diving

- After diving, wait at least 24 hours prior to flying.

CE

Aladin TEC 2G dive instrument is a personal protective equipment in compliance with the essential safety requirements of the European Union directive 89/686/EEC. RINA SpA, Via Corsica 12, I-16128 Genoa, notified body no. 0474, have certified the conformity with the European Standard EN 13319:2000.

EN13319:2000 Diving accessories - Depth gauges and combined depth and time measuring devices - Functional and safety requirements, test methods. Any information on decompression obligation displayed by equipment covered by this standard is explicitly excluded from its scope.

Introduction

Congratulations on purchasing Aladin TEC 2G and welcome to UWATEC. From now on you will enjoy the assistance of the most extraordinary dive computer - equipped with UWATEC's most innovative technology - while diving.

Aladin TEC 2G enables you to use two different gas mixtures during the same dive. However, for an easy reading this manual mainly refers to dives with a single gas mixture. Information for diving with two gas mixtures is marked with ⍁⍁ or has been summarised in special chapters.

We thank you for choosing Aladin TEC 2G and we hope you will enjoy safe dives in the future! Further information on UWATEC dive computers and other products by UWATEC can be found on our web page at www.scubapro-uwatec.com.
To make this manual easier to read we will use the term "Aladin" as an abbreviation for "UWATEC Aladin TEC 2G diving computer" throughout this booklet.

Safety considerations
Dive computers provide divers with data; they, however, do not provide the knowledge how this data should be understood and applied. Dive computers cannot replace common sense! You must therefore carefully read and understand this entire manual before using your Aladin.

Important remarks concerning signal words and symbols

This operating manual makes use of the following icons to indicate especially important comments:

Remarks Information and tips which are important for optimal use of the functions of Aladin.

Danger!

WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

The following symbols are used in the operating manual:

Flashing display -> Page reference e.g. ->10 ⍁⍁ Valid only for dives with 2 gas mixtures

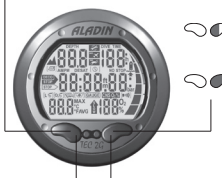
Audible signals

4s Audible attention signal

Audible alarm signal

Instructions for manual input

Press left push button
Press and hold (1 second) left push button



Press right push button
Press and hold (1 second) right push button

Press and hold (1 second) both push buttons

Alternate displays
By pushing during the dive you can scroll through alternate displays.

How to get back to the first display:
- scrolling with through the displays
- after 5 seconds: automatically if marked with
- after 5 seconds: directly by pushing 1x

E.g. Max depth > Temperature > Temperature, Time > Max depth

Time out after 5 seconds without operation. Display switches back to original indication.

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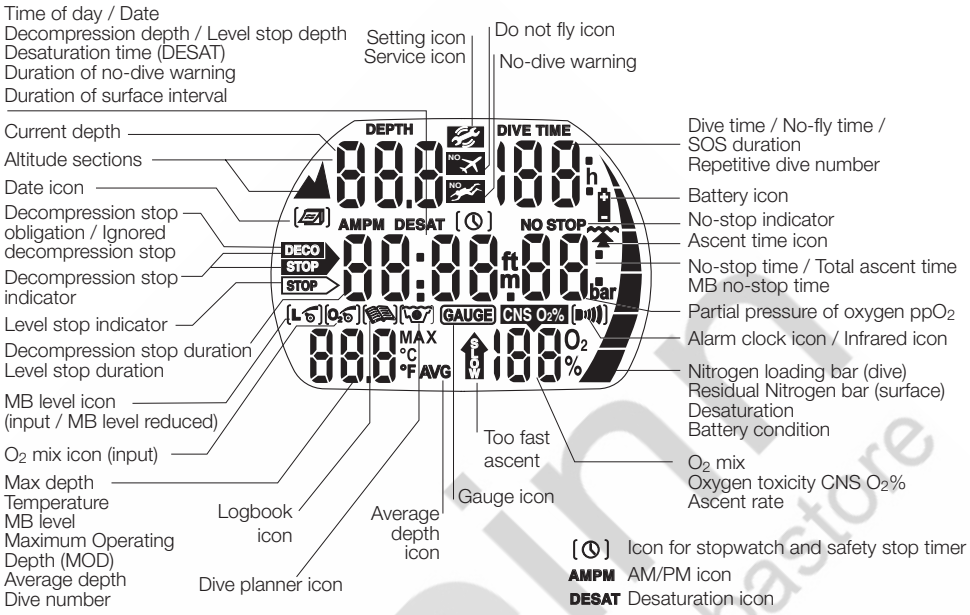
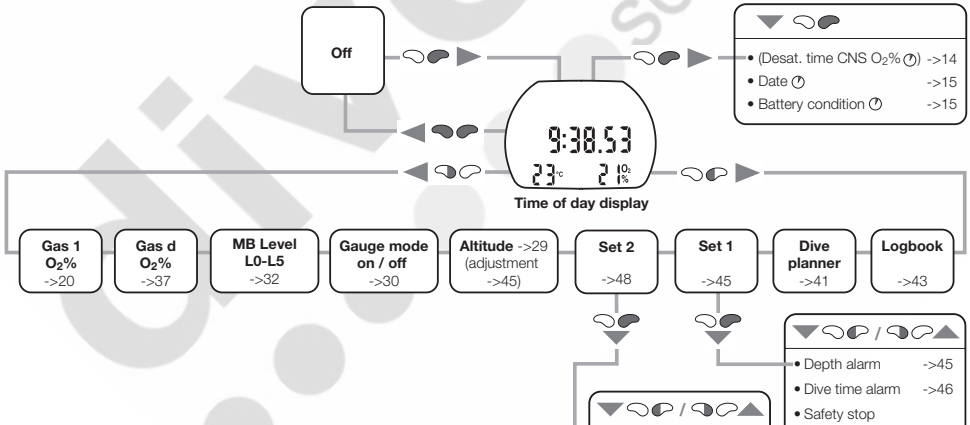
Quick reference



[ ] Icon for stopwatch and safety stop timer
AMPM AM/PM icon
DESAT Desaturation icon

Operating scheme

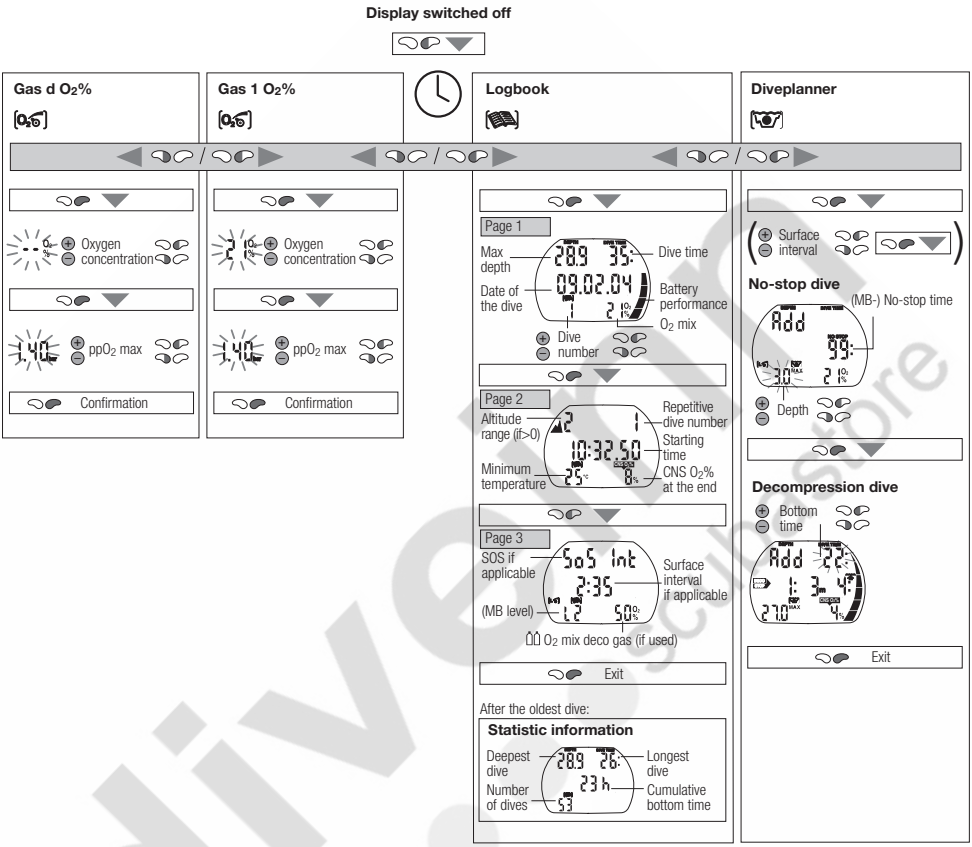
"->" means "more information at page"


Off
• (Desat. time CNS O2%) ->14
• Date ->15
• Battery condition ->15
9:38.53
Time of day display
Gas 1 O2% ->20
Gas d O2% ->37
MB Level L0-L5 ->32
Gauge mode on / off ->30
Altitude ->29 (adjustment ->45)
Set 2 ->48
Set 1 ->45
Dive planner ->41
Logbook ->43
• Depth alarm ->45
• Dive time alarm ->46
• Safety stop duration ->46
• ppO2 max ->46
• Reset to air ->46
• Deco gas on/off ->46
• Unit system ->46
• Salt / fresh water ->46
• Backlight duration ->47
• Attention beep on /off ->47
• Water contacts on /off ->47
• Reset desaturation ->47
• Alarm clock ->48
• UTC time zone ->48
• Time of day ->48
• 24h / AM PM ->49
• Date ->49
• Display contrast ->49
• IrDA speed ->49
• Sound on / off ->50
• Electronic ID ->50

Enter
Scroll / Change setting
Backlight
Exit

Without operation the display switches automatically back to the time of day display and after 3 minutes the display switches off.

See also page 14.


Display switched off
Gas d O2%
Gas 1 O2%
Logbook
Diveplanner
Oxygen concentration
ppO2 max
Confirmation
Page 1
Max depth
Dive time
Date of the dive
Battery performance
O2 mix
Dive number
Page 2
Altitude range (if>0)
Repetitive dive number
Starting time
Minimum temperature
CNS O2% at the end
Page 3
SOS if applicable
Surface interval if applicable
(MB level)
O2 mix deco gas (if used)
Exit
After the oldest dive:
Statistic information
Deepest dive
Longest dive
Number of dives
Cumulative bottom time
Surface interval
No-stop dive
(MB-) No-stop time
Depth
Decompression dive
Bottom time
Exit

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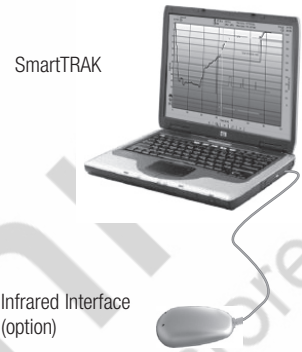
II System and operation

1 System description

Aladin displays all important dive and decompression data and has a memory which stores the full dive data. The data can be transmitted with an infrared interface (IrDA) and SmartTRAK software to a Windows® personal computer.
SmartTRAK software CD is included with the Aladin package. Infrared interfaces are available in PC stores; a list of recommended interfaces is available on our website (www.scubapro-uwatec.com).



2 Operation

On page 5 and 14 you will find an operating schematic.

2.1 Push buttons

Aladin can be operated with two push buttons (◡◠). Operation of the push buttons is divided into "press" (◔ /◠) and "press and hold (1 second)" (◕/◡).

At the surface:

- ◡◕/◕◡ • Switch on Aladin (**time of day display**)
- ◡◕ • Comparable to the ENTER or RETURN key of a keyboard
- ◡◕ • Enter into the displayed sub menu
- ◡◕ • Open the displayed setting
- ◡◕ • Confirm or enter the displayed value or setting
- ◔◡/◡◔ • Scroll through a menu
- ◔◡/◡◔ • Once entered with ◡◕ into a sub menu or setting:
  - Increase (◡◔) or decrease (◔◡) the indicated value
  - Change the setting
- ◕◡ • Operate the backlight
- ◕◕ • Exit the current function or menu and switch to the **time of day display**
- ◕◕ • Switch off Aladin

Under water:

- ◡◔ • Access alternate displays ◠
- ◔◡ • Set bookmark
- ◕◡ • Operate the backlight
- ◔◡ • Activate the safety stop timer (dive mode only, in depths < 6.5m /20ft)

Gauge mode (stopwatch):

- ◔◡ • Restart

Diving with two mixtures:

- ◡◕ • Initiate switch to gas D or gas 1
  - ◡◔ Interrupt switching process
- ◡◕ • Confirm switch to gas D or gas 1

2.2 Water contacts

On submerging in water the water contacts switch on Aladin automatically.

WARNING

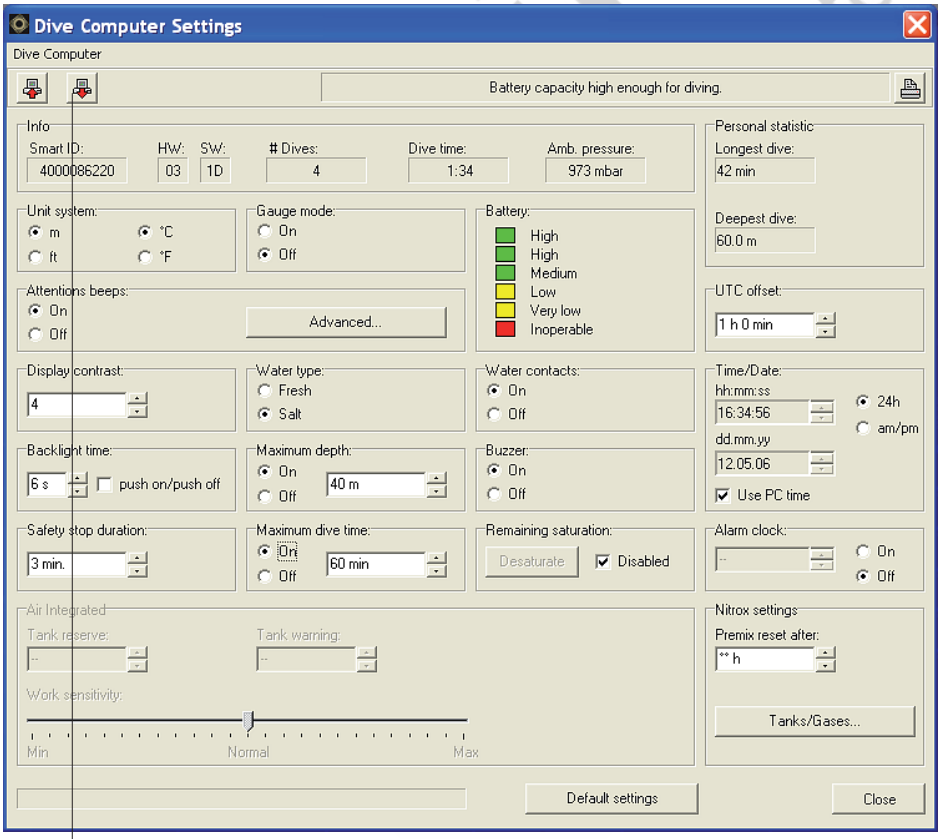
If you have chosen the option "Water contacts off" ("set 1", ->47), Aladin will turn on with a delay of up to 1 minute into the dive. This will affect functioning of the computer.
Make sure that the computer is on before starting the dive.

2.3 SmartTRAK

With SmartTRAK you can configure Aladin, transfer dive data to a personal computer and graphically display the data. To start the communication, turn on Aladin and place it so that its infrared window is in front of the infrared interface. If Aladin detects an infrared device within range appears.

Configuring Aladin

To configure Aladin, select "Dive Computer Settings" under "OPTIONS" on the main menu bar of SmartTRAK after having established communication between your PC and Aladin. The following window will appear:



When making any changes to the settings via SmartTRAK, you must press the "Write" icon for the changes to take effect.

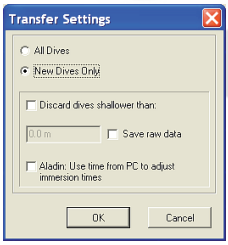
The following settings may be changed with SmartTRAK or via "set 1" or "set 2" directly on Aladin:

Setting	Range	Default	Page
• Depth alarm	5 - 100m (20 - 330ft) on/off	40m (130ft),off	45
• Dive time alarm	5-195min, on/off	60min, off	46
• Safety stop duration	1-5min	3 minutes	46
• Maximum partial pressure of oxygen (ppO_2 max)	1.2-1.6bar	1.4bar	46
• Time limit to reset the O_2% mix to air	no reset / 1 - 48hrs	no reset	46
• Deco gas	on/off	off	46
• Unit system	metric/imperial		46
• Water type	on (salt water)/off (fresh water)	on (salt water)	46
• Backlight illumination duration	2-12s ; push on / push off	6s	47
• Audible attention signals	on / off (SmartTRAK: selective)	on	47
• Water contacts	on / off	on	47
• Reset desaturation	on / off	no reset	47
• Gauge mode	on / off	off	30
• Alarm clock	0 - 23h 59min, on/off	12:00, off	48
• UTC (Universal Time Change) zone	±13hrs, increments: 15min		48
• Time of day	hours:minutes		48
• 24 or AM/PM setting	24 (off) / AM/PM (on)		49
• Date			49
• Display contrast	1 (low) -12 (high)	4	49
• Sound	on / off	on	50

The following data may be recalled with SmartTRAK:

- Number of past dives
- Total duration of dives
- Deepest dive
- Longest dive
- Atmospheric pressure
- Dive profile
- Logbook
- Temperature curve
- Alarms and attention messages
- Bookmarks
- Average depth
- Battery condition

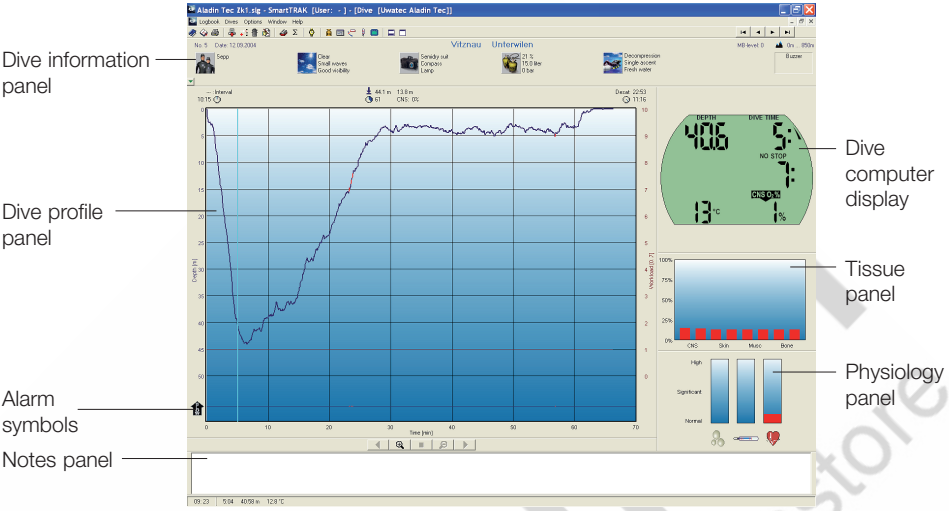
Downloading your dives



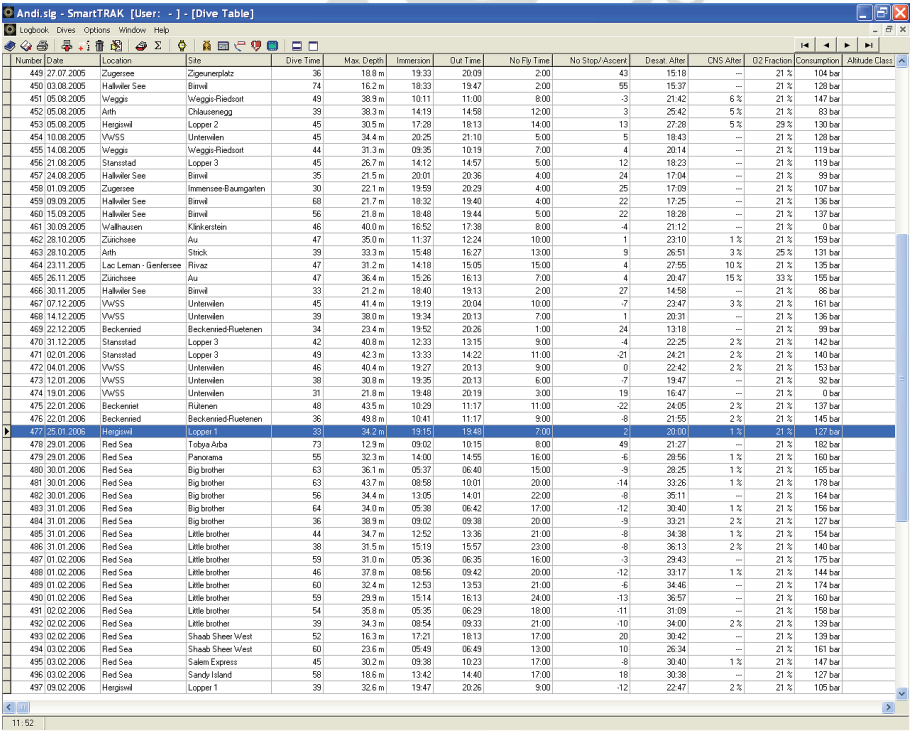
Aladin's memory allows you to store approximately 25 hours of dive profile information in 4 second sampling intervals. With SmartTRAK you can transfer this information to the PC in order to visualize and analyze your dives on the monitor. To download data from Aladin, click on "NEW" under the "LOGBOOK" menu to open and name a new logbook or open an existing logbook. Then click on the "TRANSFER DIVES" icon: a box will appear on the screen identifying the computer being downloaded, and a progress bar will show the status of the transfer.
You can choose between transferring all dives or new dives only (default setting) from Aladin's memory. If you choose to transfer new dives only, SmartTRAK will only transfer dives that are more recent than the most recent dive already saved in the PC logbook. To transfer all dives, you must change the default setting by selecting "Transfer" under "Dives" in the main menu bar.

Once the data is downloaded, a window will show you a summary table of all dives; for the selected dive, another window will show you its details. From these windows you can add and edit your dive information.

Dive window



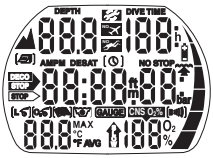
Dive table



Number	Date	Location	Site	Dive Time	Max. Depth	Immersion	Out Time	No Fly Time	No Stop/-Ascent	Desat. After	CNS After	O2 Fraction	Consumption	Altitude Class
449	27.07.2005	Zugersee	Zigeunerplatz	36	18.8 m	19:33	20:09	2:00	43	15:18	---	21 %	104 bar	
450	03.08.2005	Hallwiler See	Birrwil	74	16.2 m	18:33	19:47	2:00	55	15:37	---	21 %	128 bar	
451	05.08.2005	Weggis	Weggis-Riedsort	49	38.9 m	10:11	11:00	8:00	-3	21:42	6 %	21 %	147 bar	
452	05.08.2005	Arth	Chlausenegg	39	38.3 m	14:19	14:58	12:00	3	25:42	5 %	21 %	83 bar	
453	05.08.2005	Hergiswil	Lopper 2	45	30.5 m	17:28	18:13	14:00	13	27:28	5 %	29 %	130 bar	
454	10.08.2005	VWSS	Unterwilen	45	34.4 m	20:25	21:10	5:00	5	18:43	---	21 %	128 bar	
455	14.08.2005	Weggis	Weggis-Riedsort	44	31.3 m	09:35	10:19	7:00	4	20:14	---	21 %	119 bar	
456	21.08.2005	Stansstad	Lopper 3	45	26.7 m	14:12	14:57	5:00	12	18:23	---	21 %	119 bar	
457	24.08.2005	Hallwiler See	Birrwil	35	21.5 m	20:01	20:36	4:00	24	17:04	---	21 %	99 bar	
458	01.09.2005	Zugersee	Immensee-Baumgarten	30	22.1 m	19:59	20:29	4:00	25	17:09	---	21 %	107 bar	
459	09.09.2005	Hallwiler See	Birrwil	68	21.7 m	18:32	19:40	4:00	22	17:25	---	21 %	136 bar	
460	15.09.2005	Hallwiler See	Birrwil	56	21.8 m	18:48	19:44	5:00	22	18:28	---	21 %	137 bar	
461	30.09.2005	Wallhausen	Klinkerstein	46	40.0 m	16:52	17:38	8:00	-4	21:12	---	21 %	0 bar	
462	28.10.2005	Zürichsee	Au	47	35.0 m	11:37	12:24	10:00	1	23:10	1 %	21 %	159 bar	
463	28.10.2005	Arth	Strick	39	33.3 m	15:48	16:27	13:00	9	26:51	3 %	25 %	131 bar	
464	23.11.2005	Lac Leman - Genfersee	Rivaz	47	31.2 m	14:18	15:05	15:00	4	27:55	10 %	21 %	135 bar	
465	26.11.2005	Zürichsee	Au	47	36.4 m	15:26	16:13	7:00	4	20:47	15 %	33 %	155 bar	
466	30.11.2005	Hallwiler See	Birrwil	33	21.2 m	18:40	19:13	2:00	27	14:58	---	21 %	86 bar	
467	07.12.2005	VWSS	Unterwilen	45	41.4 m	19:19	20:04	10:00	-7	23:47	3 %	21 %	161 bar	
468	14.12.2005	VWSS	Unterwilen	39	38.0 m	19:34	20:13	7:00	1	20:31	---	21 %	136 bar	
469	22.12.2005	Beckenried	Beckenried-Ruetenen	34	23.4 m	19:52	20:26	1:00	24	13:18	---	21 %	99 bar	
470	31.12.2005	Stansstad	Lopper 3	42	40.8 m	12:33	13:15	9:00	-4	22:25	2 %	21 %	142 bar	
471	02.01.2006	Stansstad	Lopper 3	49	42.3 m	13:33	14:22	11:00	-21	24:21	2 %	21 %	140 bar	
472	04.01.2006	VWSS	Unterwilen	46	40.4 m	19:27	20:13	9:00	0	22:42	2 %	21 %	153 bar	
473	12.01.2006	VWSS	Unterwilen	38	30.8 m	19:35	20:13	6:00	-7	19:47	---	21 %	92 bar	
474	19.01.2006	VWSS	Unterwilen	31	21.8 m	19:48	20:19	3:00	19	16:47	---	21 %	0 bar	
475	22.01.2006	Beckenried	Rütenen	48	43.5 m	10:29	11:17	11:00	-22	24:05	2 %	21 %	137 bar	
476	22.01.2006	Beckenried	Beckenried-Ruetenen	36	49.8 m	10:41	11:17	9:00	-8	21:55	2 %	21 %	145 bar	
477	25.01.2006	Hergiswil	Lopper 1	33	34.2 m	19:15	19:48	7:00	2	20:00	1 %	21 %	127 bar	
478	29.01.2006	Red Sea	Tobya Arba	73	12.9 m	09:02	10:15	8:00	49	21:27	---	21 %	182 bar	
479	29.01.2006	Red Sea	Panorama	55	32.3 m	14:00	14:55	16:00	-6	28:56	1 %	21 %	160 bar	
480	30.01.2006	Red Sea	Big brother	63	36.1 m	05:37	06:40	15:00	-9	28:25	1 %	21 %	165 bar	
481	30.01.2006	Red Sea	Big brother	63	43.7 m	08:58	10:01	20:00	-14	33:26	1 %	21 %	178 bar	
482	30.01.2006	Red Sea	Big brother	56	34.4 m	13:05	14:01	22:00	-8	35:11	---	21 %	164 bar	
483	31.01.2006	Red Sea	Big brother	64	34.0 m	05:38	06:42	17:00	-12	30:40	1 %	21 %	156 bar	
484	31.01.2006	Red Sea	Big brother	36	38.9 m	09:02	09:38	20:00	-9	33:21	2 %	21 %	127 bar	
485	31.01.2006	Red Sea	Little brother	44	34.7 m	12:52	13:36	21:00	-8	34:38	1 %	21 %	154 bar	
486	31.01.2006	Red Sea	Little brother	38	31.5 m	15:19	15:57	23:00	-8	36:13	2 %	21 %	140 bar	
487	01.02.2006	Red Sea	Little brother	59	31.0 m	05:36	06:35	16:00	-3	29:43	---	21 %	175 bar	
488	01.02.2006	Red Sea	Little brother	46	37.8 m	08:56	09:42	20:00	-12	33:17	1 %	21 %	144 bar	
489	01.02.2006	Red Sea	Little brother	60	32.4 m	12:53	13:53	21:00	-6	34:46	---	21 %	174 bar	
490	01.02.2006	Red Sea	Little brother	59	29.9 m	15:14	16:13	24:00	-13	36:57	---	21 %	160 bar	
491	02.02.2006	Red Sea	Little brother	54	35.8 m	05:35	06:29	18:00	-11	31:09	---	21 %	158 bar	
492	02.02.2006	Red Sea	Little brother	39	34.3 m	08:54	09:33	21:00	-10	34:00	2 %	21 %	139 bar	
493	02.02.2006	Red Sea	Shaab Sheer West	52	16.3 m	17:21	18:13	17:00	20	30:42	---	21 %	139 bar	
494	03.02.2006	Red Sea	Shaab Sheer West	60	23.6 m	05:49	06:49	13:00	10	26:34	---	21 %	161 bar	
495	03.02.2006	Red Sea	Salem Express	45	30.2 m	09:38	10:23	17:00	-8	30:40	1 %	21 %	147 bar	
496	03.02.2006	Red Sea	Sandy Island	58	18.6 m	13:42	14:40	17:00	18	30:38	---	21 %	127 bar	
497	09.02.2006	Hergiswil	Lopper 1	39	32.6 m	19:47	20:26	9:00	-12	22:47	2 %	21 %	105 bar	

English

2.4 Switching on the display



Time of day display

- automatically, on submerging in water* or when adaptation to atmospheric pressure is necessary;
- manually, by pushing or . If switched on with all segments light up for 5 seconds.

Afterwards the display shows the time of the day, the O_2 mix and the temperature.

This display is called **time of day display**. Most navigation descriptions start from this display. At the surface Aladin returns automatically to this display.

If there is a remaining saturation from the last dive or from a change of altitude, Aladin also displays the "do not fly" time, the "do not fly" icon, the current altitude range and the prohibited altitude range (->29).

When Aladin is in state of rest no information is displayed but the atmospheric pressure is continuously monitored. If a change in altitude range is detected, Aladin switches on for 3 minutes automatically ->29.

* Only if the option "Water contacts on" ("set 1", ->47) is chosen. See warning ->10.

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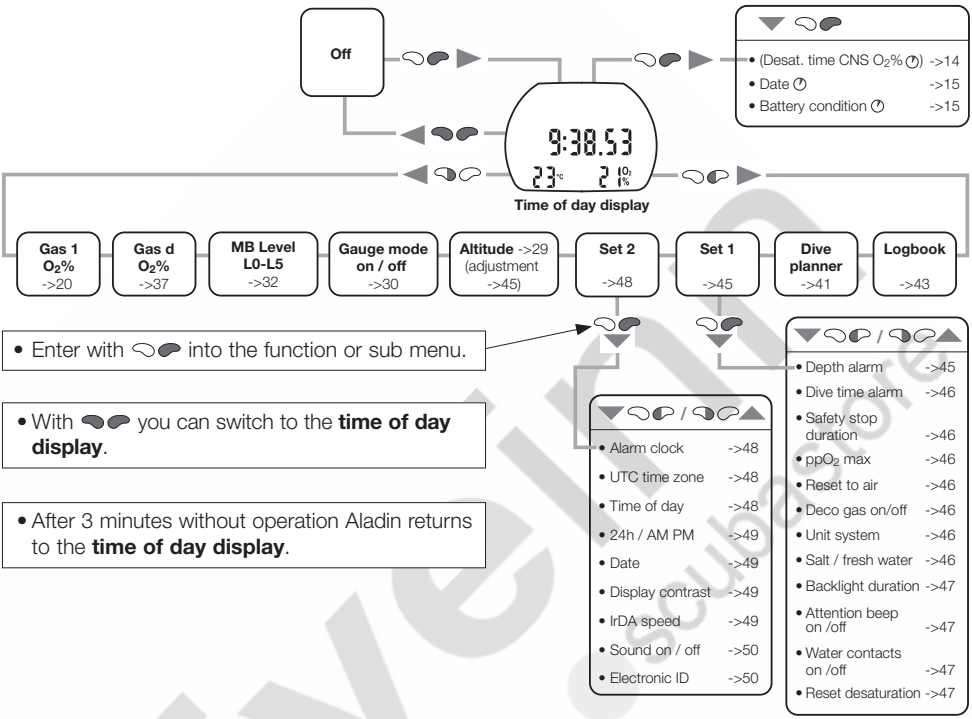
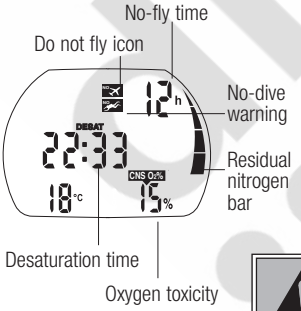
2.5 How to navigate Aladin at the surface

Starting from the **time of day display** you can enter into different menus.


Off
• (Desat. time CNS O2% ⏱) ->14
• Date ⏱ ->15
• Battery condition ⏱ ->15
9:38.53
23°C 21 O2 %
Time of day display
Gas 1 O2% ->20
Gas d O2% ->37
MB Level L0-L5 ->32
Gauge mode on / off ->30
Altitude ->29 (adjustment ->45)
Set 2 ->48
Set 1 ->45
Dive planner ->41
Logbook ->43
• Depth alarm ->45
• Dive time alarm ->46
• Safety stop duration ->46
• ppO2 max ->46
• Reset to air ->46
• Deco gas on/off ->46
• Unit system ->46
• Salt / fresh water ->46
• Backlight duration ->47
• Attention beep on /off ->47
• Water contacts on /off ->47
• Reset desaturation ->47
• Alarm clock ->48
• UTC time zone ->48
• Time of day ->48
• 24h / AM PM ->49
• Date ->49
• Display contrast ->49
• IrDA speed ->49
• Sound on / off ->50
• Electronic ID ->50

- Enter with into the function or sub menu.
- With you can switch to the **time of day display**.
- After 3 minutes without operation Aladin returns to the **time of day display**.

2.6 Checking the desaturation time



From the **time of day display** you can check the desaturation time* by pushing . Desaturation time is determined either by oxygen toxicity, nitrogen saturation or the regression of microbubbles, depending on which requires the longer time.

The display switches back to the **time of day display** after 5 seconds without operation.

* Only displayed if there is a remaining saturation due to the last dive or change of altitude.

WARNING

For the calculations of the desaturation and no-fly time it is assumed that the diver breathes air while on the surface.

2.7 Checking the surface interval

From the **time of day display** you can check the surface interval by pushing (logbook menu).

The surface interval is the time since the end of the last dive and is displayed as long as there is remaining saturation.

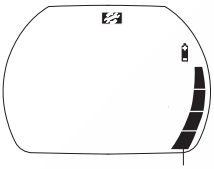
2.8 Displaying the date

Date

From the **time of day display** you can display the date by pushing 1x or 2x (depending on whether there is desaturation time left).

The display switches back to the **time of day display** after 5 seconds without operation.

2.9 Checking the battery condition


Battery condition / performance

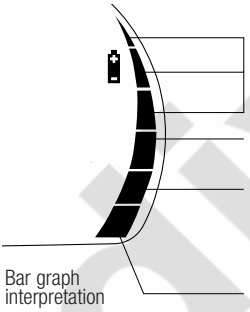
From the **time of day display** you can check the battery condition by pushing 2x or 3 x (depending on whether there is desaturation time left).

Aladin displays the estimated remaining battery performance for 5 seconds as a bar graph. If the bar graph shows 3 segments the battery warning appears ->19 and the battery has to be replaced ->51.

WARNING

- If the bar graph shows 2 segments, the battery symbol will blink, on the surface and in dive mode, to alert the diver of a dangerous situation: the battery may not have enough energy to finish a dive.
- Replace the battery when the steady battery symbol appears (3 segments)!

The temperature influences the battery performance. In cold water it is lower than in warm water. If the battery shows 4 segments on the surface, it is possible for it to drop to 3 segments during the dive. If this is the case, the backlight will be temporarily disabled. See below.


Battery performance high enough for diving.
Battery warning appears. Backlight deactivated. Replace the battery! ->51
Diving not possible, dive planner and settings are disabled
Bar graph interpretation

WARNING

Flashing battery warning. Audible alarms and attention messages disabled! Backlight deactivated! Risk of computer malfunction. Do not let the battery reach this condition!

Aladin marks dives started with 3 or less segments in the logbook with the battery symbol.
Logbook information is not lost even when the battery is removed for a long time.

2.10 Active backlight

The display of Aladin can be illuminated both on the surface and underwater. The backlight can be activated by pushing . The light will turn off automatically. The default duration is 6 seconds. The duration can be changed in "set 1" (->47) or with SmartTRAK between 2 and 12 seconds. It can also be set to "push on / push off", in which case the light stays on until you turn it off by pressing again.
The backlight can only be activated if the computer display is on.

Repeated activation of the backlight will reduce battery life.

Keeping the backlight permanently on represents a severe strain on the battery. In warm waters (20 °C/68 °F and above), a new battery can sustain 20-40 1-hour dives with the backlight always on. In cold waters (4 °C/40 °F and below) the low battery warning may come on within the first dive.
For temperatures between 4 °C/40 °F and 20 °C/68 °F the life of a new battery will be somewhere between 1 and 20 1-hour dives. Aladin monitors the battery level throughout every dive, and if the available energy drops below the warning threshold, Aladin will automatically disable the backlight to prevent a computer shut down.

2.11 Switching off the display

From the **time of day display** you can switch off Aladin by pushing .

On the surface Aladin switches off automatically after 3 minutes without operation.

2.12 Alarm clock

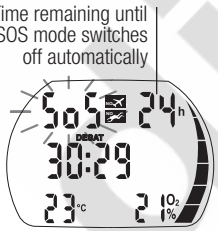
The alarm clock goes off only at the surface.
If the alarm clock is "on", the time of day display shows .

When alarm is triggered: flashes and special attention beeps are played for 30 seconds or until the user presses a button.

Setting the alarm clock: ->48 ("set 2")

3 SOS mode

Time remaining until SOS mode switches off automatically



Activation: automatic
If the diver remains above a depth of 0.8m (3ft) for more than three minutes without observing a prescribed decompression stop, the computer will automatically switch into SOS mode after the dive.

Push to see the "SOS" sign and the remaining length of the SOS mode. The dive will be entered in the logbook with "SOS".

The SOS mode will be unlocked after 24 hours.

While in SOS mode, the computer cannot be used for diving. The computer can however be used in gauge mode ->30. All segments in the nitrogen loading bar will flash throughout the dive.

Diving within 48 hours after the end of an SOS mode will result in shorter no stop times or longer decompression stops.

WARNING

- Serious injury or death may result if a diver does not seek immediate treatment should any signs or symptoms of decompression sickness occur after a dive.
- Do not dive to treat symptoms of decompression sickness!
- Diving in SOS mode is extremely dangerous and you must assume full responsibility for such behaviour. UWATEC will assume no liability.

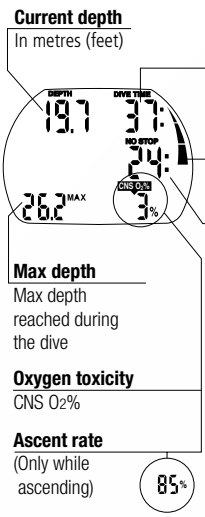
A diving accident can be analyzed at any time in the logbook and downloaded to a PC by means of the infrared interface (IrDA) and SmartTRAK software.

1 Terminology / Symbols

The information on the display of Aladin varies depending on the kind of dive and the dive phase.

For information about diving with microbubble (MB) levels see chapter V ->32. Specific features of "Diving with two gas mixtures", are described in chapter VI ->37.

1.1 General terminology / Display during no-stop phase



Current depth
In metres (feet)

Dive time
Duration of the dive (min)

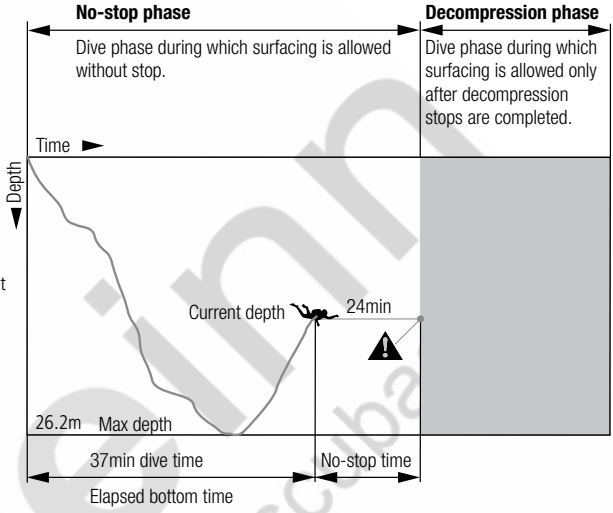
Nitrogen loading bar

No-stop time
Remaining time at a given depth during which ascent is allowed without decompression stop (min).

Max depth
Max depth reached during the dive

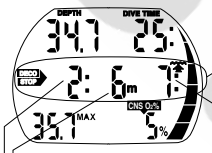
Oxygen toxicity
CNS O_2%

Ascent rate
(Only while ascending)



(Max depth >) Temperature
> Temperature, O_2 mix and time of day
> (Max depth)…

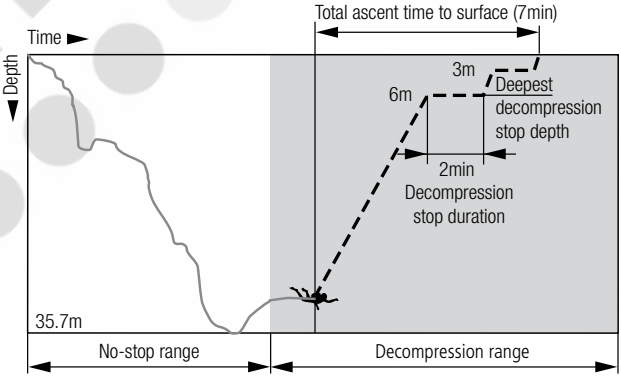
1.2 Display during decompression phase



Decompression stop
All required decompression stops must be observed.

Decompression stop depth
Deepest stage is displayed.

Decompression stop duration
Prescribed duration of the decompression stop at the displayed decompression stage (minutes).



Total ascent time
Including decompression stops in minutes.

1.3 Nitrox information (O_2 information)

For dives with compressed air in normal recreational diving, nitrogen is the decisive gas for the decompression calculations. When diving with Nitrox, the risk of oxygen toxicity rises with the increase of the fraction of oxygen and the increase of depth and can limit dive time and the max depth. Aladin includes this in the calculations and displays the necessary information:

O_2% mix

Fraction of oxygen: The fraction of oxygen in the Nitrox mixture can be set between 21% (normal compressed air) and 100% in 1% increments. Your selected mix will be the basis for all calculations.

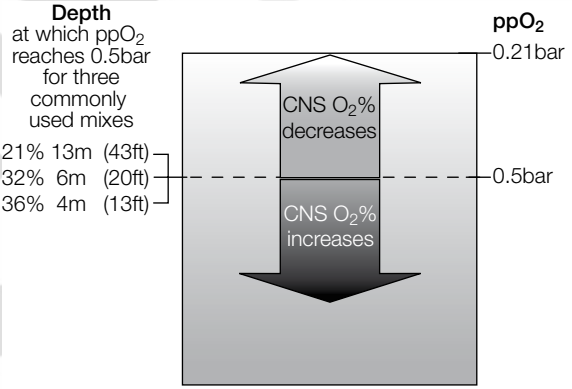
ppO_2 max

Maximum allowed partial pressure of oxygen: the higher the fraction of oxygen in the mixture, the shallower the dive depth at which this value of the partial pressure of oxygen is reached. The depth at which ppO_2 max is reached is called Maximum Operating Depth (MOD).
When you enter the settings for the gas mixture, Aladin will display the ppO_2 max limit setting and the corresponding MOD. Aladin warns you audibly and visually once the depth is reached at which the ppO_2 reaches the maximum allowed value ->25.

- Default setting of ppO_2 max is 1.4bar.
  The value of ppO_2 max can be set by means of SmartTRAK or with "set 1" between 1.2 and 1.6bar (->46). It can also be changed at the time of setting the gas mixture (->20).
- The CNS O_2% value/alarm is not influenced by the selected ppO_2 max setting.

CNS O_2%

Oxygen toxicity: With the increased percentage of oxygen, the oxygen in the tissues, especially in the central nervous system (CNS), becomes important. If the partial pressure of oxygen rises above 0.5bar, the CNS O_2 value increases, if the partial pressure of oxygen is below 0.5bar, the CNS O_2 value decreases. The closer the CNS O_2 value is to 100%, the closer the limit where symptoms of oxygen toxicity can occur.



WARNING

Nitrox diving may only be attempted by experienced divers after proper training from an internationally recognized agency.

2 Attention messages and alarms

Aladin draws the diver's attention to certain situations and warns the diver of unsafe diving practices. Attention messages and alarms are visual and / or audible.

- The audible attention messages can be switched off in "set 1" ->47 or SmartTRAK. With SmartTRAK they can be switched off selectively.
- In addition, the sound can be turned off completely in "set 2" ->50.

If you turn off the sound you will have no audible warnings. Without audible warnings you could inadvertently get into potentially hazardous situations which could result in death or serious injury.

Serious injury or death may result from failing to immediately respond to alarms given by Aladin.

2.1 Attention messages

Attention messages are communicated to the diver visually by symbols, letters or flashing figures. In addition, two short audible sequences can be heard (in an interval of 4 seconds) in two different frequencies under water.

•)) 4s •)) (can be switched off)

Attention messages come up in the following situations (more information can be found on the listed pages):

	Page
• Maximum Operating Depth / ppO_2 max is reached	25
• Set max depth is reached	23
• Oxygen toxicity reaches 75%	25
• No-stop time less than 3 minutes	26
• Prohibited altitude (surface mode)	29
• Entering decompression (when diving with L0)	26
• Half of set dive time is reached	22
• Set dive time is reached	22
• ÛÛ Depth for tank switch has been reached	40

Diving with MB levels (L1-L5):

• MB no-stop time = 0	34
• MB level stop ignored	35
• MB level reduced	35
• Entering decompression when diving with MB level L1-L5	35

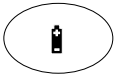
2.2 Alarms

Alarms are given to the diver visually by flashing symbols, letters or figures. In addition, an audible sequence in one frequency can be heard during the whole duration of the alarm.

•)•))•)) •))•))•)) •))•))•)) •))•))•))

An alarm occurs in the following situations (more information can be found on the listed pages):

	Page
• Oxygen toxicity reaches 100%	25
• Ignored decompression	27
• Exceeding the prescribed ascent rate (Particular scale of beeps, ->24)	24
• Altitude alarm	29
• Low battery alarm (without audible alarm): the battery icon appears if the battery has to be replaced.	51



3 Preparation for the dive

You have to check the settings of Aladin especially before the first dive. All settings can be checked and changed directly at Aladin or via SmartTRAK.

3.1 Setting the gas mixture and ppO_2 max

WARNING

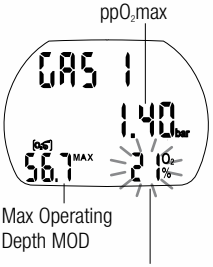
Before every dive and after changing the tank, make sure that the settings for the gas mixture correspond with the current mixture used. An incorrect setting causes Aladin to miscalculate this particular dive. If the fraction of oxygen is set too low this can lead to oxygen poisoning without warning. If the value is set too high decompression sickness may occur. Inaccuracies in the calculations are carried over to repetitive dives.

For dives with two gas mixtures please read page 37 for further reference.

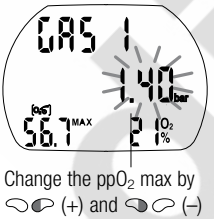
To set the gas mixture, Aladin must be in user mode (**time of day display**).

or until

1. Push or until the GAS 1 O_2 menu appears.
2. Confirm that you wish to change the oxygen fraction of gas 1 by pushing .



3. Change the oxygen fraction in increments of 1% by pushing or . Aladin will display the current fraction of oxygen, the maximum partial pressure limit (ppO_2 max) and the MOD.
4. Confirm the selected percentage with .



5. By pushing or you can change the ppO_2 max for the chosen fraction of oxygen down to 1.0bar. Aladin will now display the corresponding MOD for the new ppO_2 max.
6. Confirm your ppO_2 max settings with .

- Without confirmation the display will disappear after 3 minutes and your entries will not be accepted.
- Automatic reset of the O_2% mix to 21% can be set with "set 1" ->46 or SmartTRAK between 1 and 48 hours or to "no reset" (default).

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3.2 Setting the MB level See chapter V, ->34

3.3 Preparation for diving with two gas mixtures See chapter VI, ->37

3.4 Preparation for the dive and function check

Switch on Aladin by pushing and check the test display: Are all elements of the display activated? Do not use Aladin if the display does not show all elements. When switching on Aladin with , the test display will not appear.

WARNING

Check the battery capacity before each dive ->15.

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4 Functions during the dive

4.1 Immersion

If the water contacts are deactivated (->47), switch on Aladin before immersion.

WARNING

If you have chosen the option "Water contacts off" ("set 1" or SmartTRAK), Aladin will turn on with a delay of up to 1 minute into the dive. This will affect functioning of the computer. Make sure that the computer is on before starting the dive.

After immersion, starting at a depth of about 0.8m (3ft), all diving functions are monitored, i.e. depth and dive time displayed, max depth stored, saturation of tissues calculated, no-stop time or decompression prognosis determined, ascent rate controlled and displayed and the correctness of the decompression procedure supervised.

4.2 Setting bookmarks

During the dive you can create bookmarks in your dive profile by pressing . The logbook icon appears for 4 seconds and an audible signal confirms the creation of the bookmark. These bookmarks will be graphically displayed in the dive profile of SmartTRAK.

4.3 Dive time

The whole time spent below a depth of 0.8m (3ft) is displayed as dive time in minutes. The time above 0.8m (3ft) is counted as dive time only if the diver descends again below 0.8m (3ft) within 5 minutes.
While the dive time is running, the colons on the right of the figures are flashing in one second intervals. Maximum dive time displayed is 199 minutes.

If a dive lasts longer than 199 minutes the dive time display starts again at 0 minutes.

WARNING

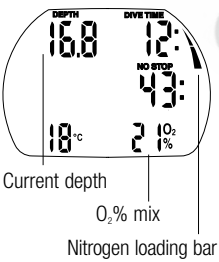
Half time alarm (turn around alarm) ->46
If half of the set maximum dive time has elapsed, an audible signal goes off and flashes for 1 minute.

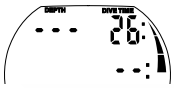
WARNING

Set dive time has elapsed ->46
An audible signal goes off and the dive time starts flashing.

4.4 Current depth / O_2% mix

Current depth is given in 10cm increments in metric setting and 1ft increments in imperial setting.

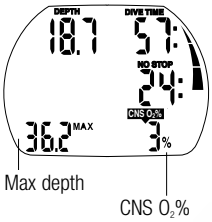




At a diving depth of less than 0.8m (3ft) the display shows "– – –".

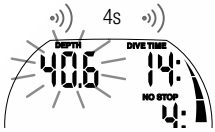
The O_2% mix is diplayed as long as CNS O_2% = 0 and no ascent speed is indicated.

4.5 Max depth / Temperature



Max depth is only displayed if it exceeds the current depth by more than 1m (3ft) (maximum indicator function). If max depth is not displayed, Aladin shows the temperature.

> Temperature, O_2 mix
> Temperature, Time, O_2 mix
> Max depth



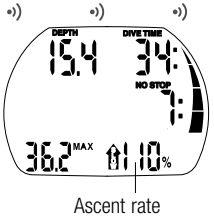
WARNING

Set max depth reached

If the max depth set with SmartTRAK or "set 1" has been reached (default 40m/130ft) and the depth alarm is turned on, the depth display will flash.

Ascend until the depth stops flashing.

4.6 Ascent rate



Ascent rate

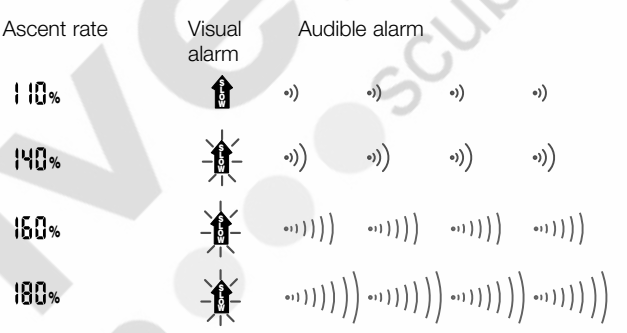
Optimal ascent rate varies depending on depth between 7 and 20m/min (23 and 67ft/min). It is displayed as a percent of the reference variable ascent rate. If the ascent rate is greater than 100% of the set value, the black arrow "SLOW" appears. If the ascent rate exceeds 140%, the arrow starts flashing. Aladin provides an audible alarm if the ascent rate is 110% or greater. The intensity of the alarm increases in direct proportion to the degree that the prescribed ascent rate is exceeded.

WARNING

The prescribed ascent rate must be observed at all times! Exceeding the prescribed ascent rate can lead to microbubbles in the arterial circulation which can lead to serious injury or death due to decompression sickness.

- In case of an improper ascent Aladin may require a decompression stop even within the no-stop phase because of the danger of microbubble formation.
- The decompression duration necessary for the prevention of microbubbles can increase massively if the ascent rate is exceeded.
- From great depth a slow ascent may cause heightened saturation of tissues and an extension of both decompression duration and total ascent time. At shallow depth, a slow ascent may shorten the decompression duration.
- Display of the ascent rate has the priority over "CNS O_2".

WARNING



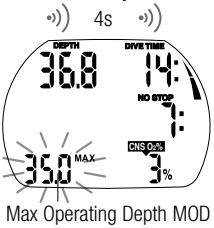
Reduce ascent rate

Excessive ascent rates for longer periods are entered in the logbook.

The following ascent rates correspond to the 100% value in Aladin.

depth (m)	<6	<12	<18	<23	<27	<31	<35	<39	<44	<50	>50
speed (m/min)	7	8	9	10	11	13	15	17	18	19	20
depth (ft)	<20	<40	<60	<75	<88	<101	<115	<128	<144	<164	>164
speed (ft/min)	23	26	29	33	36	43	49	56	59	62	66

4.7 Partial pressure of oxygen (ppO_2 max) / Maximum Operating Depth (MOD)



Max Operating Depth MOD

The maximum partial pressure of oxygen ppO_2 max (default 1.4bar) determines the Maximum Operating Depth (MOD). Diving deeper than the MOD will expose the diver to oxygen partial pressures higher than the set maximum level. The ppO_2 max and consequently the MOD can be reduced manually (->20, setting the gas mixture, point 5).
In addition the maximum allowed ppO_2 can be set by means of SmartTRAK or with "set 1" between 1.2 to 1.6bar ->46.

WARNING

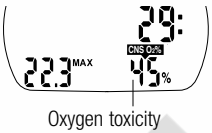
The MOD is a function of ppO_2 max and the mixture used. If during the dive the MOD is reached or exceeded Aladin sends an audible attention message and the MOD is displayed (flashing) in the lower left corner.

Ascend to a depth shallower than the displayed MOD in order to diminish the danger of oxygen poisoning.

WARNING

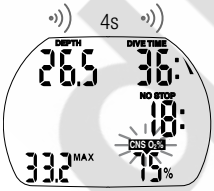
The MOD should not be exceeded. Disregarding the warning can lead to oxygen poisoning.

4.8 Oxygen toxicity (CNS O_2%)



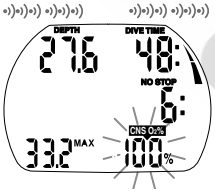
Oxygen toxicity

Aladin calculates oxygen toxicity based on depth, time and the gas mixture and displays it in the location of the ascent rate. The toxicity is expressed in 1% increments of a maximum tolerated value (O_2 clock).
The symbol "CNS O_2" is displayed together with the percentage.



WARNING

An audible attention signal goes off if oxygen toxicity reaches 75%. The symbol "CNS O_2" flashes.
Ascend to shallower depth to decrease oxygen loading and consider terminating the dive.



WARNING

When oxygen toxicity reaches 100%, an audible alarm goes off every 4 seconds. "CNS O_2" and the percentage value flash. Danger of oxygen toxicity!
Start procedure for terminating the dive.

- During an ascent and if the CNS O_2% value does not increase anymore (due to a lower partial pressure of oxygen), the audible warning is suppressed.
- During the ascent, the display of the oxygen toxicity is replaced by the ascent rate. If the ascent is stopped, the display changes back to the indication of the CNS value.
- Aladin will display CNS O_2% values exceeding 199% with 199%.

4.9 Nitrogen loading bar graph

The nitrogen loading bar gives a graphical representation of how close to decompression you are. As you absorb nitrogen during the dive, more and more segments of the bar will light up. Depending on your depth, the segments can light up more or less rapidly.

1-3 segments (green area): you are safely within the no-stop range

4-5 segments (yellow area): you are approaching decompression. When the no-stop time drops below 3 minutes the 5 segments will start flashing.**

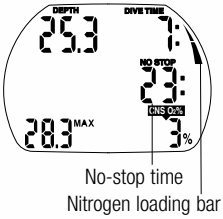
6 segments (red area): you now have mandatory decompression obligation(s) which you must observe before reaching the surface.

** Depending on your profile, the no-stop time may drop below 3 minutes before the upper 5 segments are lit. In this case, only those segments that are lit will flash.

If you have entered decompression, the 6th segment will turn off as soon as you complete your last decompression obligation to indicate that you are no longer in decompression.

4.10 Decompression information

NO STOP and the no-stop time (minutes) are displayed if no decompression stops are necessary.

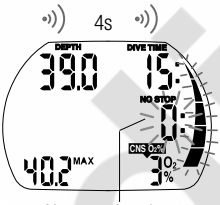


No-stop time
Nitrogen loading bar

- No-stop display "99:" means remaining time of 99 minutes or more.
- No-stop time is influenced by the water temperature.

WARNING

If no-stop time drops below 3 minutes, an audible attention signal is activated, the no-stop value and the nitrogen loading bar begin to flash.
If no-stop time is less than 1 minute, the no-stop display shows the flashing value "0".
In order to prevent a decompression dive, ascend slowly until the no-stop time is 5 minutes or more.



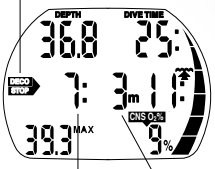
No-stop time less than 1 minute

WARNING

Dives that require decompression stops are not recommended.

Decompression values

Decompression obligation



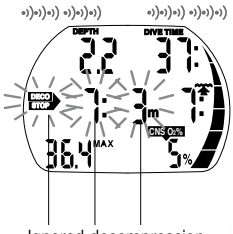
Decompression stop duration

Decompression depth

On entering the decompression phase, "NO STOP" disappears, the DECO STOP symbol appears and an attention beep goes off. The nitrogen loading bar stops flashing and the 6th segment lights up (red area). The deepest decompression stage in metres (feet) is displayed and the decompression stop duration of the displayed stage appears in minutes. The display "7: 3m (10ft)" means that a decompression stop of 7 minutes at a depth of 3m (10ft) has to be made.

When a decompression stop has been completed, the next (shallower) decompression stop is displayed. When all decompression stops have been completed, the DECO STOP symbol extinguishes, "NO STOP" and no-stop time reappear.

Deco stop depths deeper than 27m (90ft) are displayed as " – – : – – ".



Ignored decompression alarm

WARNING

The decompression alarm is activated if the decompression stop is ignored. The arrow , the decompression stop duration and decompression stop depth begin to flash and an audible alarm goes off.

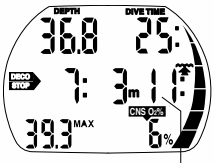
Due to the formation of microbubbles, decompression can increase massively if a decompression stop is ignored. When the surface is reached during the decompression alarm, the arrow , the decompression stop duration and decompression stop depth continue flashing, in order to point to the risk of a decompression accident. The SOS mode is activated 3 minutes after the dive if corrective action is not taken (->16).

If the total (cumulative) duration of the decompression alarm is longer than one minute, it is entered in the logbook.

Descend to the prescribed decompression stop depth immediately!

Total time of ascent

As soon as decompression stops are necessary Aladin shows the total time of ascent. This includes the ascent time from the current depth to the surface and all decompression stop obligations.



Total ascent time

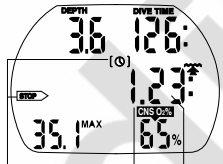
The total time of ascent is calculated on the basis of the prescribed ascent rate. Total time of ascent can be subject to change if the ascent rate is not ideal (100%).

Ascent time greater than 99 minutes is displayed as " – – ".

WARNING

On all dives with Aladin, make a safety stop for at least three minutes at a depth of 5m (15ft).

4.11 Safety stop timer



Safety stop icons

Remaining time span

Minutes

Seconds

The safety stop timer displays the time span a diver should spend at the safety stop depth at the end of the dive. The timer is activated by the diver and counts back from 3 minutes (default) to zero. It can be restarted any number of times. The duration of the timer can be set between 1 and 5 minutes.

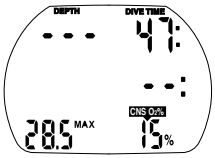
The safety stop timer can be activated under the following conditions: depth <6.5m (21ft), no-stop display 99min, gauge mode is switched off.

Activate the safety stop timer by pressing . The timer begins to count backwards and a bookmark will be created in the dive profile. If you press again, the timer will start again from the full value.

The safety stop timer will switch off automatically if the depth exceeds 6.5m (21ft) or the no-stop phase is shorter than 99 minutes.

5 Functions at the surface

5.1 End of a dive



Depth less than 0.8m (3ft)

After reaching the surface (<0.8m/3ft) Aladin remains in dive mode for 5 minutes. The delay allows for surfacing for a short period for orientation.

After 5 minutes the dive is closed and it is entered into the logbook. The time of day is then displayed for 3 minutes, after which the computer turns off.

WARNING

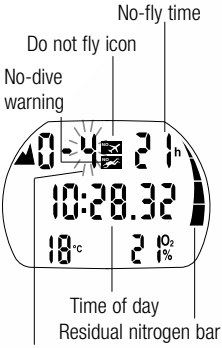
For the calculations of the desaturation and no-fly time it is assumed that the diver breathes air while on the surface.

5.2 Residual nitrogen bar graph

The segments in the residual nitrogen bar graph will gradually turn off as Aladin follows the offgassing of your tissues during your surface interval. There is a 1:1 equivalence in the meaning of the segments between diving and surface. Thus, on a repetitive dive the bar will resume from its status on the surface just prior to the dive. There are two exceptions however:

- the uppermost segment will stay lit until the desaturation time is completely extinguished. This is done to show that there is desaturation time left and that a dive started at this point will be logged as a repetitive dive. If the remaining desaturation time is very short, this segment could however at first disappear during the dive;
- during the 24 hours of an SOS-lock, all segments will stay on.

5.3 Desaturation time, No-fly time and No-dive warning



5 minutes after a dive Aladin shows the time of day, the "do not fly time", the no-dive warning (if applicable), the current altitude range and the prohibited altitude range (->29).

No-fly time is the time in hours that should pass before a flight and is displayed and adjusted until the value becomes 0 hours.

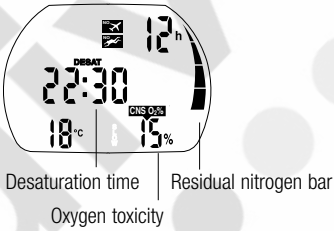
WARNING

Flying while Aladin displays "do not fly" may lead to serious injury or death from decompression sickness.

WARNING

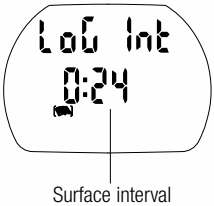
If the "no-dive" warning is visible during the surface interval, the diver should not undertake another dive.

To check the remaining **desaturation time** and oxygen toxicity press .



Desaturation time is determined either by oxygen toxicity, nitrogen saturation or the regression of microbubbles, depending on which requires the longer time.

To check the **elapsed surface interval** press .



No-dive warning

If Aladin detects a situation of increased risk (due to the potential of microbubble accumulation from previous dives or a CNS O_2 level above 40%), the no-dive symbol will appear on the display. The duration of the no-dive warning is visible in the dive planner menu. Aladin recommends this as minimum surface interval in order to reduce the number of microbubbles and/or to reduce the CNS O_2 level below 40%.

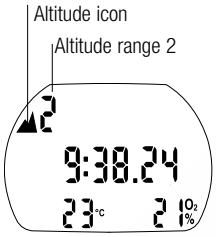
You should not undertake a dive as long as the no-dive warning message is displayed on the computer screen. If the warning is prompted by microbubble accumulation (as opposed to CNS O_2 over 40%) and you dive anyway, you will have shorter no-stop times or longer decompression times. Moreover, the duration of the no-dive warning at the end of the dive can increase considerably.

6 Diving in mountain lakes

6.1 Altimeter

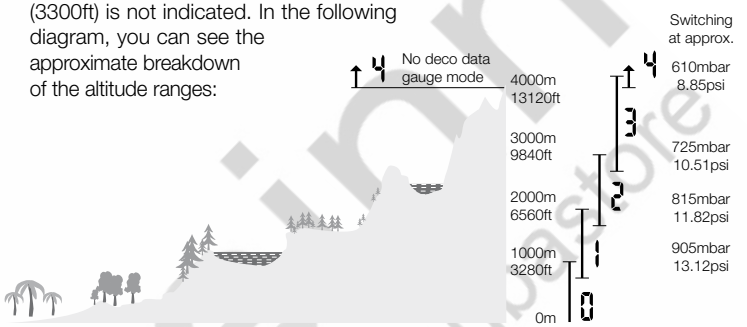
The altitude adjustment ->45 does not affect altitude ranges nor any calculations.

6.2 Altitude ranges



Aladin measures the atmospheric pressure every 60 seconds even while the display is switched off. If the computer detects a sufficient increase in altitude, it switches on automatically and indicates the new altitude range (1-4) and the desaturation time. Desaturation time indicated at this moment refers to adaptation time at this altitude. If the dive starts within this adaptation time, Aladin treats it as a repetitive dive, since the body is offgassing.

Altitude is divided into five ranges, which are influenced by barometric pressure. That is why the defined altitude ranges overlap on their fringes. If a mountain lake is reached, the altitude range is indicated at the surface (**time of day display**), in the logbook and in the dive planner by a stylised mountain and the current altitude range. Sea level to an altitude of approximately 1000m (3300ft) is not indicated. In the following diagram, you can see the approximate breakdown of the altitude ranges:



0 1 2 3 4
Altitude ranges

6.3 Prohibited altitude

Ascent to altitude range 3 and 4 prohibited.
Max allowed altitude: 2650m (8694ft).

WARNING

Aladin shows via flashing altitude segments while at the surface to which altitude the diver may not rise.

Max altitude:	850m 2790ft	1650m 5413ft	2650m 8694ft	4000m 13120ft

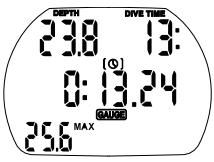
The ascent prohibition can also be displayed together with an altitude range:

Example: You are at 1200m (3937ft) (altitude range 1) and you may ascend to range 2 only (2650m / 8694ft). You may not rise to the altitude range 3 or 4.

WARNING

If an ascent to a prohibited altitude is detected, an audible alarm goes off for 1 minute (patent pending).
Descend to a lower altitude.

6.4 Decompression dives in mountain lakes



Dive at altitude range 4:
- no deco data (gauge mode)

In order to assure optimal decompression even at higher altitudes, the 3m (10ft) decompression stage is divided into a 4m (13ft) stage and a 2m (7ft) stage in altitude ranges 1, 2 and 3. The prescribed decompression stop depths are, in sequence, 2m / 4m / 6m / 9m… (7ft / 13ft / 20ft / 30ft…).

If atmospheric pressure is below 620mbar (8.99psi) (altitude higher than 4100m / 13450ft above sea level), Aladin switches automatically to gauge mode and no decompression data is calculated and displayed.

In addition, the dive planner is not available anymore.

IV Gauge mode

WARNING

In gauge mode **ALL** audible and visual alarms and attention messages are turned off.

In gauge mode Aladin will display depth, dive time and max depth. By pressing you can scroll from the max depth to the temperature, to the average depth, to the time of day and back to the max depth. By pressing you can restart the stopwatch. This generates a bookmark. Gauge mode does not support the calculation of no-stop time or the supervision of decompression. Supervision of ppO_2 max and CNS O_2% will also be switched off. Aladin will display no information about microbubble development. The settings for the gas mixture, MOD and microbubble level cannot be set and the dive planner cannot be selected.

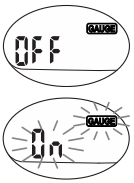
Switching the gauge mode on and off

Gauge mode can be switched on and off at the surface, when there is no desaturation and no-dive in gauge mode has been made in the last 48 hours.

WARNING

- Dives in gauge mode are performed at your own risk!
- After diving in gauge mode you must wait for at least 48 hours before using a decompression computer.

After diving in gauge mode, Aladin can not be used as dive computer for 48 hours.



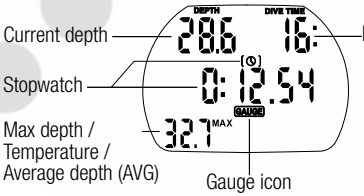
Procedure:

1. From the **time of day display** push or until the gauge symbol and "on" or "off" are displayed.
   (If Aladin shows " – – – " the gauge mode cannot be switched "on" or "off". Aladin shows " – – – " for 48 hours after a dive in gauge mode and as long as there is remaining desaturation after a dive in computer mode.)
2. Confirm with that you wish to activate or deactivate the gauge mode. The "on" or "off" starts flashing.
3. By pushing or the gauge mode is switched on or off.
4. Confirm your settings with .

Without confirmation the display will disappear after 3 minutes and your entries will not be accepted.

Diving in gauge mode

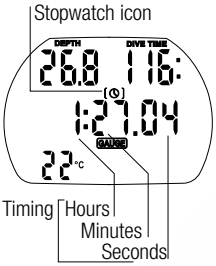
The following information is displayed in gauge mode:



- >Temperature
- >Average depth (AVG)
- >Temperature, Time
- >Max depth

The **average depth** is continuously updated and represents the time averaged depth since the beginning of the dive.
You can **reset the average depth** at any time by pushing . This generates also a bookmark.

Stopwatch



In gauge mode, after immersion, Aladin will automatically monitor the dive time and at the same time activate the stopwatch. The stopwatch will run for a maximum of 24 hours.

Resets time and starts stopwatch from zero.
Each start (restart) of the stopwatch creates a bookmark.

After diving in gauge mode

Aladin shows the remaining time span during which it cannot be used in computer mode. Once the waiting period is over, the gauge mode can be switched off manually ->30.

Remaining time during which Aladin cannot be used in computer mode

The no-fly time after diving in gauge mode is 48 hours.

Desaturation time will not be displayed.

divein scubastore

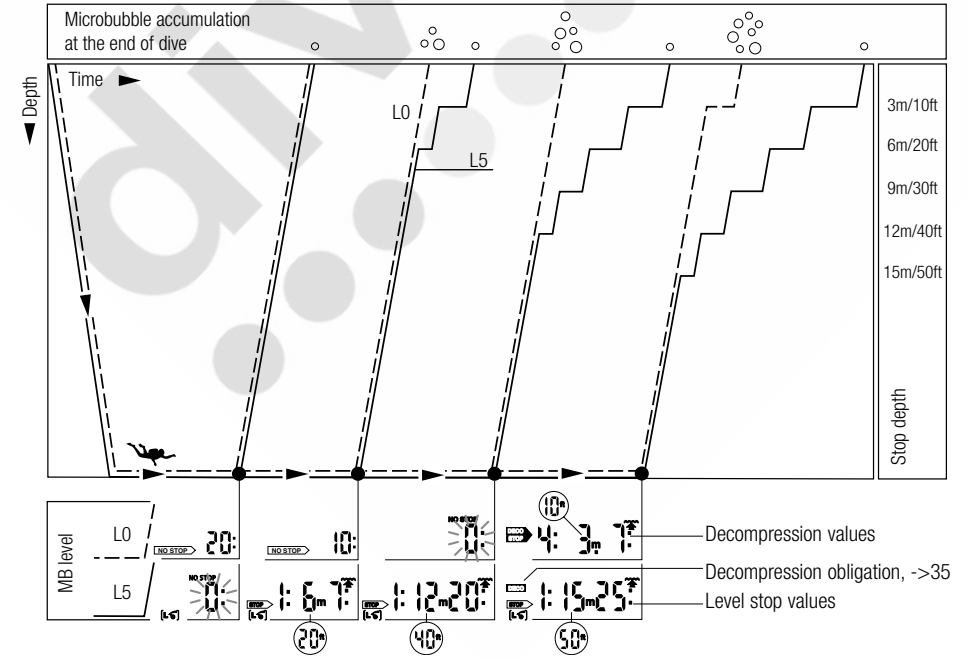
V Diving with microbubble (MB) levels

The following chapter deals with the characteristics of diving with microbubble (MB) levels. For general information about displays and features of diving with Aladin see chapter III.

Microbubbles are tiny bubbles that can build up inside a diver's body during any dive and normally dissipate naturally during an ascent and on the surface after a dive. Dives within no-stop time and observance of decompression stops do not prevent the formation of microbubbles in the venous blood circulation.
Dangerous microbubbles are those migrating into the arterial circulation. The reasons for the migration from the venous blood circulation to the arterial circulation can be a great many microbubbles collecting in the lungs. UWATEC has equipped Aladin dive computers with a new technology to protect from microbubbles.
The diver chooses – according to his/her needs – an MB level and influences through it the level of protection from microbubbles. Diving with MB levels requires additional ascent stops (level stops), the ascent is slowed down and the body gets more time to desaturate. This works contrary to the formation of the microbubbles and increases safety.
Aladin features **6 microbubble levels** (L0-L5). Level L0 corresponds to UWATEC's well-known decompression model ZH-L8 ADT and does not require level stops due to microbubble formation. Levels L1 to L5 offer additional protection from microbubble formation with level L5 offering the highest protection.
Similar to the display of information during decompression dives or dives within no-stop time, Aladin displays depth and duration of the first level stop as well as the total time of ascent as soon as the MB no-stop time has run out. As the MB no-stop time is shorter than the ordinary no-stop time a diver will be required to carry out a stop (level stop) sooner than a diver using level L0.
If a diver ignores a required level stop, Aladin will cascade to a lower MB level and the dive can not be completed with the initially chosen MB level. E.g. if a diver sets level L4 on Aladin prior to the dive and during the dive ignores the recommended stops Aladin will automatically adjust the setting to level L3 or lower.

1 Comparison of dives with MB level L0 and MB level L5

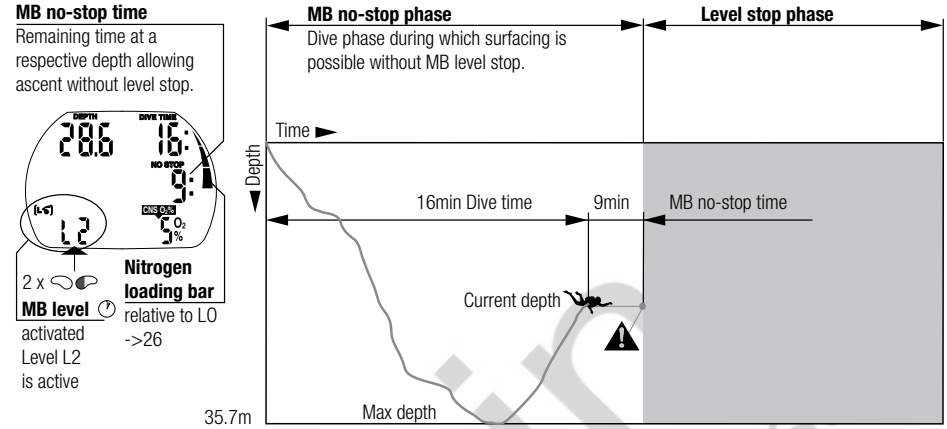
When two Aladin are used simultaneously, one unit is set for example to MB level L5, the other to L0, the no-stop time will be shortened and level stops will be required before the diver has the obligation of a decompression stop. These additional level stops help dissipate the microbubbles.



2 Terminology

This chapter will exclusively deal with terminology and display features used while diving with MB levels. All other features are described in chapter III (->17).

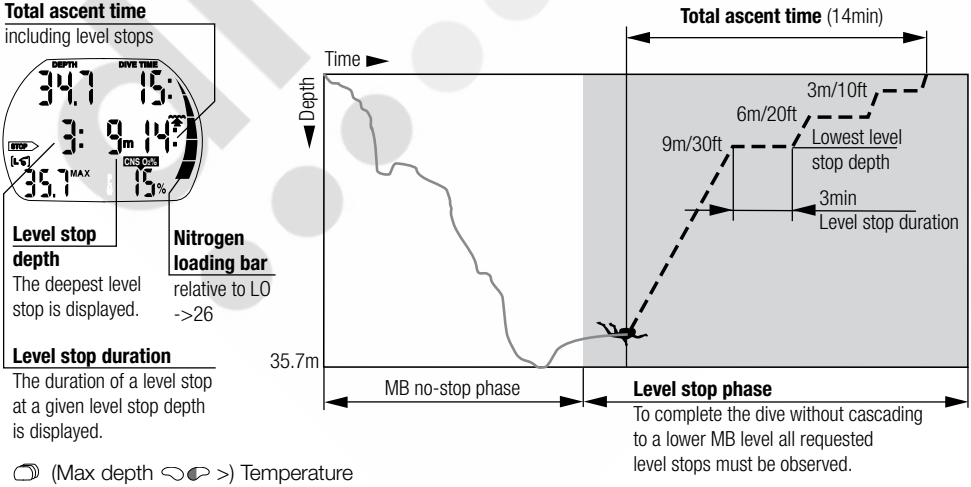
2.1 Display during MB no-stop phase



(Max depth >) Temperature
> MB level active
> No-stop time relative to L0
> Temperature and time of day
> (Max depth)…

Whereas the *quantitative* information relative to L0 can be seen by pressing the right button, *qualitative* information is always visible on the display in form of the nitrogen loading bar. In particular, when the L0 no-stop time is less than three minutes, the nitrogen bar will flash ->26. This will help you avoid entering inadvertently into decompression.

2.2 Display during level stop phase

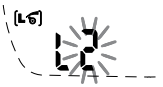


(Max depth >) Temperature
> MB level active
> No-stop time or deco information relative to L0
> Temperature and time of day
> (Max depth)…

3 Preparation for a dive with MB levels

3.1 Setting the MB level

or
until



To change the MB level Aladin must be in user mode (**time of day display**).

1. Push or until the symbol for MB levels appears.
2. Confirm that you wish to change the displayed MB level by pushing .
3. Change MB level by pushing or .
4. Confirm the selected MB level with .

Without confirmation the display will disappear after 3 minutes and your entries will not be accepted.

Aladin will display the symbol to confirm that an MB level beyond L0 (L1-L5) has been chosen. During the dive the MB level is shown by pressing 2x . If however a level stop is ignored, the new MB level is shown (->35).

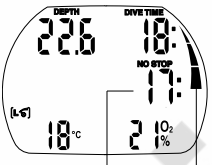
MB levels have an influence on the dive planner.

4 Functions during the dive with MB levels

4.1 Level stop information

MB no-stop time

While diving with MB levels L1 to L5 Aladin will display the MB no-stop time instead of the ordinary no-stop time. Within the MB no-stop time no level stops are required.
"NO STOP" and the MB level symbol are visible. The remaining MB no-stop time is shown in minutes.



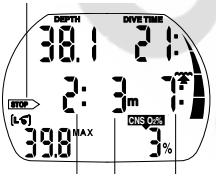
MB no-stop time

Nitrogen loading bar relative to L0

- Information and alarms for MB no-stop time and ordinary no-stop time are the same (->26).
- No-stop time relative to L0 is shown by pressing 3x (see)
- Regardless of the MB level, we generally recommend to perform a slow ascent during the last few metres / feet.

Level stop

Level stop icon

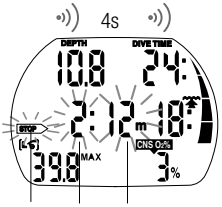


Level stop duration

Total time of ascent

Deepest level stop depth

On entering the level stop phase, "NO STOP" disappears and the arrow STOP appears. The STOP arrow flashes for 8 seconds and an audible attention beep goes off. To complete the dive without cascading to a lower MB level, all requested level stops must be observed.
The deepest level stop is displayed in metres (feet). The display "2: 3m " ("2: 10ft") means that a level stop of 2 minutes at a depth of 3 metres (10 feet) has to be observed. Deco information relative to L0 is shown on an alternate display (see).
When a level stop has been finished, the next higher level stop – if present – is displayed. When all level stops have been observed, the arrow STOP extinguishes and "NO STOP" reappears. The indication of time shows the MB no-stop time again.

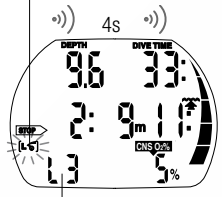


Level stop ignored

WARNING

The attention message "**Level stop ignored**" is activated if the requested level stop is not observed. An attention beep* goes off and the arrow STOP , the depth and duration of the ignored level stop begin flashing.
To complete the dive without being reduced to a lower MB level, you must descend to the prescribed depth immediately!

MB level reduced



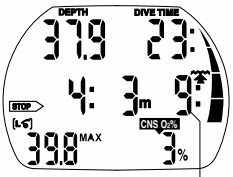
New MB level

WARNING

The warning "**MB level reduced**" is activated if the diver ascends more than 1.5m (5ft) above the required level stop. Aladin reduces the MB level, an attention beep* goes off and the new MB level is shown in the lower left corner.
To complete the dive without being further reduced to an even lower MB level the new level stop must be observed.

* Attention beeps can be suppressed with "set 1" (->47) or via SmartTRAK.

4.2 Total time of ascent



Total ascent time

Aladin displays the level stop information and the total time of ascent. This includes the time of ascent as well as all level stops.

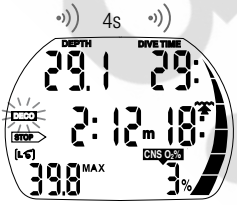
The total time of ascent is calculated on the basis of the prescribed ascent rate. Total time of ascent can be subject to change if the ascent rate is not ideal (100%).

4.3 Decompression obligation

Aladin calculates and displays level stops to reduce microbubble formation, but it also calculates the diver's decompression data.

WARNING

Avoid decompression dives when diving with MB levels.



How to avoid decompression stops:

- Check ordinary no-stop time by pushing ⌓◐ until L0 appears.
- Observe the nitrogen loading bar (it is relative to L0) ->26, ->33
- If the nitrogen loading bar flashes (less than 3 minutes to deco): ascend slowly a few metres/feet.

WARNING

At the beginning of a decompression phase an attention beep goes off and the DECO symbol flashes for 8 seconds.

In order to prevent a dive with long decompression stops it is recommended that you ascend a few metres/feet on seeing this message.

Decompression obligation

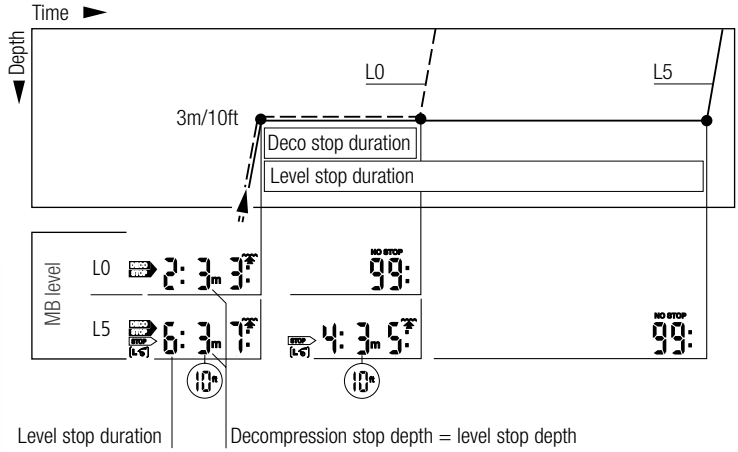
Level stop information

If decompression stops become obligatory, the DECO symbol will be displayed. The total ascent time will now also contain a decompression stop.

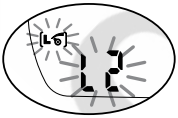
4.4 Level stop and deco stop

When the level stop depth equals the depth of the first obligatory decompression stop and if you are within 1.5m /5ft of the stop depth itself, Aladin shows DECO STOP and STOP (level stop). The indicated duration refers to level stop duration.

Since level stops are more restrictive than decompression stops, when all decompression obligations have been observed the display changes from DECO STOP STOP to STOP only.



5 Complete a dive with MB levels



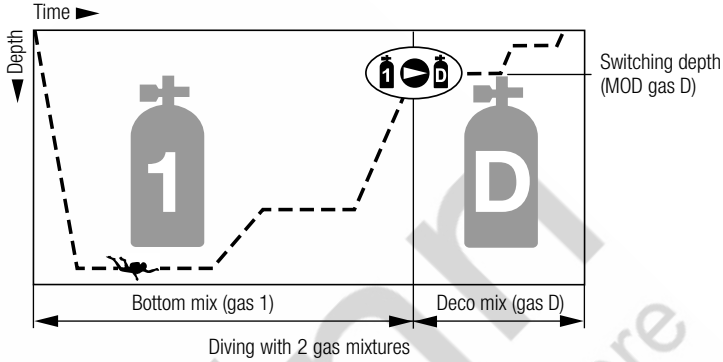
A dive with MB levels is completed the same way as a dive without MB levels (L0) (->27), save for the following exceptions:

If the MB level has been reduced during the dive, Aladin will display a flashing MB level symbol and the current MB level for five minutes after reaching the surface. The dive is then completed and Aladin changes to user mode with the MB level switching back to the original MB setting.

Repetitive dives and MB levels: If during a dive a level stop is being ignored and the diver starts another descent shortly afterwards, Aladin might immediately request level stops. To complete the dive with the initially set MB level all level stops must be observed.

The following chapter deals with the characteristics of diving with two gases.

Aladin enables you to use two different Nitrox mixtures during the same dive. Tank 1 contains the bottom mix (gas 1) and tank D contains the deco mix (gas D).

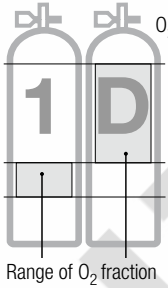


Diving with 2 gas mixtures

Switching the deco gas option on and off

In order to enable two-gas diving you must turn on the deco gas option in the SET 1 menu ->46.

Setting the gas mixture and the depth for changing the gas mixture



During dives with two gas mixtures the bottom mix (gas 1) contains the lower fraction of oxygen. Aladin will only accept settings corresponding with this order.

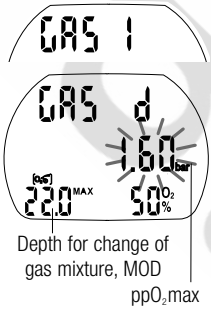
WARNING

For gas mixtures having an oxygen percentage of 80% or greater the ppO_2 is fixed at 1.6bar and cannot be altered in any way.

Procedure:

1. Enter the setting for the fraction of oxygen and the ppO_2 max (MOD) for gas 1 (bottom mix) according to the instructions on page 20 (points 1-6).
2. Repeat the process in the GAS D O_2 menu to set the oxygen fraction and ppO_2 max for gas D. Note that in this case the resulting MOD corresponds to the depth at which you plan to switch from gas 1 to gas D during the ascent phase (switch depth).
3. If you set gas D to "––O_2%", Aladin will compute the dive considering gas 1 only.

   Aladin will only accept a gas switch depth (MOD gas D) as input where the maximum partial pressure of oxygen (ppO_2 max), as pre-set manually (->20 point 5) or by means of SmartTRAK, is not exceeded.



- During the ascent an audible and visual attention message will indicate that you have reached the depth which requires the change to gas D ->40.
- Without confirmation with the display will disappear after 3 minutes and your entries will not be accepted.
- If the deco gas option is turned on and the oxygen fraction of gas D is set to a value other than "--O_2%", in surface mode and up to a depth of 0.8m Aladin will display "2G" in the lower right corner of the display instead of a percentage value.

- The time to reset the O_2% mix to air can be set with SmartTRAK between 1 hour and 48 hours or to "no reset" (default).
  After the reset, the oxygen fraction of gas 1 is set to 21% and gas D is set to "– – O_2%" (single gas dive).

Switching between single-gas and two-gas diving

If gas D is not going to be used during the next dive you can either set it to "– – O_2%" (->37, point 2) or you can turn off the deco gas option in SET 1. When you turn off the deco gas option in SET 1, the setting in the GAS D O_2 menu remains but Aladin calculates the dive using gas 1 only.
If the deco gas option is turned off, the GAS D O_2 menu will display OFF in the lower left corner (instead of an MOD) and the ppO_2 setting will not appear.

Functions during a dive with two gas mixtures

WARNING

Diving with more than one gas mixture represents a much higher risk than diving with a single mixture, and mistakes by the diver may lead to serious injury or death.

During dives with several gas mixtures, always make sure you are breathing from the tank you intended to breath from. Mark all your tanks and regulators, so they can under no circumstances be mixed up! Before every dive and after changing a tank, make sure that each gas mixture is set to the correct value for the corresponding tank.

Predictive decompression prognosis

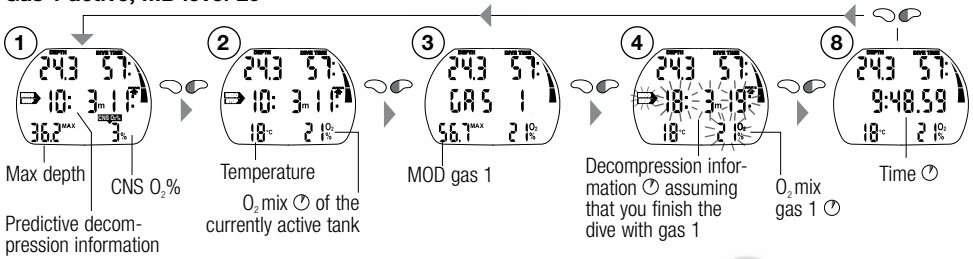
The calculation of decompression data is based on the assumption that the change of gas mixture will be performed at the previously selected switch depth (MOD gas D). If a diver ignores the required change or changes the mixture belatedly, Aladin will readjust the decompression calculation accordingly. In case of an ignored switch the dive computer will then base its calculations on the assumption that the diver will ascend to the surface with gas 1.

Alternate displays during a dive with two gases

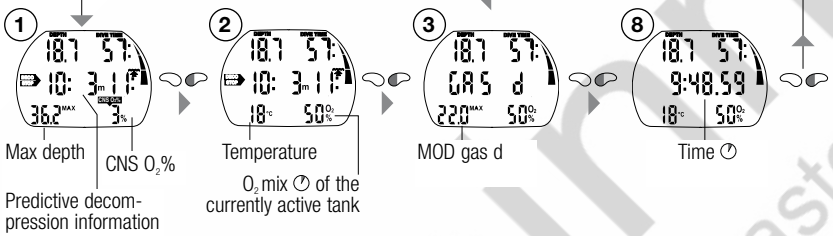
All displays time out after 5 seconds and the default display is shown again. (Only exception is the temperature, screen 2 below.)

1. The default display shows the predictive decompression prognosis, which assumes the diver will switch to the deco gas at the specified switch depth. In the bottom left corner the temperature is displayed unless the current depth is 1m/3ft shallower than the max depth, in which case the max depth is displayed.
2. Upon pressing the right button, the temperature and the current O_2% are shown in the lower row. O_2% will time out after 5 sec while the temperature remains.
3. Upon pressing the right button, "GAS 1" or "GAS d" appears in the middle row to indicate the currently active gas and the MOD appears in the bottom left corner. "GAS 1" or "GAS d" will time out after 5 seconds unless the right button is pressed again.
4. In case that gas 1 is the active gas, pressing the right button one more time shows O_2% of gas 1 in the bottom right corner and the decompression information in case the deco gas is not used (decompression information relative to gas 1 only). This is the calculation that Aladin would switch to in case, having reached the switch depth, the diver did not confirm the switch. The decompression information and the O_2% blink.
5. If an MB level greater than L0 is active, pressing the right button one more time shows the predictive decompression information and in the bottom left corner the currently active MB level.
6. Pressing the right button again shows the predictive decompression information relative to L0 together with the L0 symbol at the bottom left.
7. One more right button push shows the decompression information relative to L0 if only gas 1 is used, with the decompression information and the O_2% of gas 1 blinking.
8. Upon pressing the right button again, the time of day appears in the middle row.

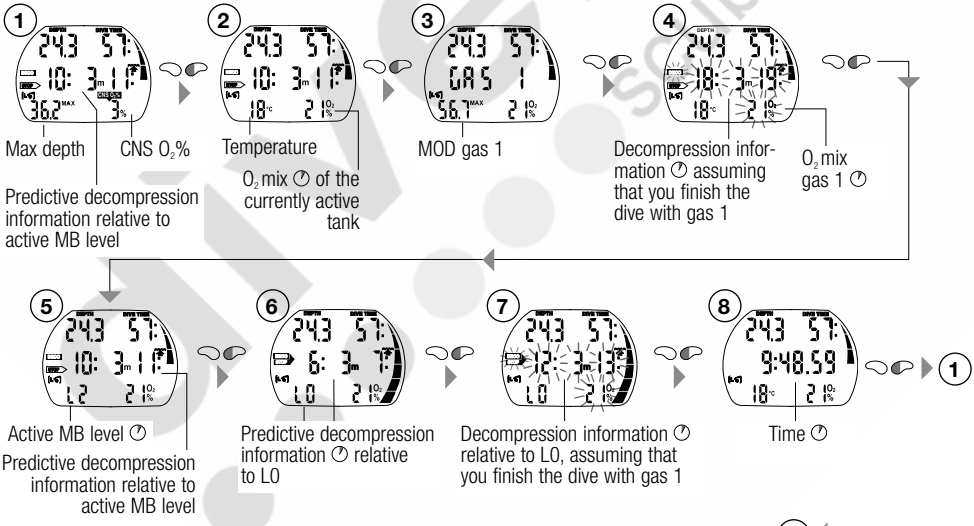
Gas 1 active, MB level L0



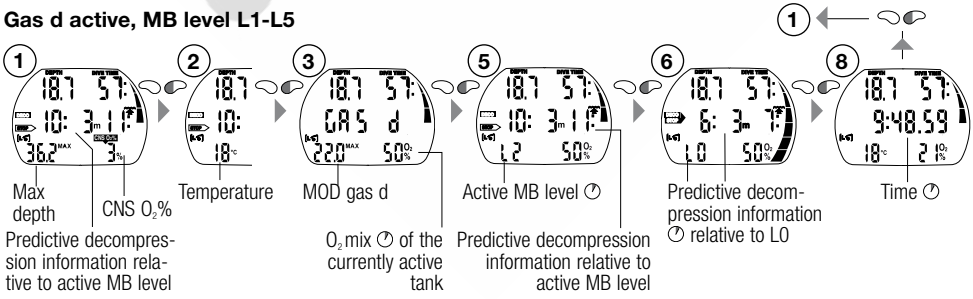
Gas d active, MB level L0



Gas 1 active, MB level L1-L5

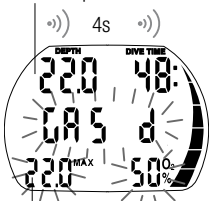


Gas d active, MB level L1-L5



Changing the gas mixture

Switch depth



Switch to gas D

MOD gas d

After immersion, Aladin automatically selects gas 1.

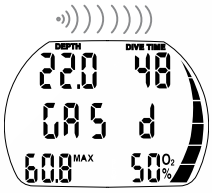
WARNING

When during an ascent the switch depth is reached (MOD gas D), an audible warning goes off and "GAS d", its MOD and O_2% blink for 30 seconds.

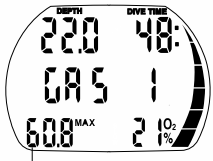
Procedure:

1. Switch to the regulator with gas D and start breathing.
2. Confirm the change by pressing within 30 seconds. "GAS d" and the oxygen fraction of gas D is displayed for 5 seconds without blinking.

To interrupt the switch process at any point, press .



Change to gas D confirmed



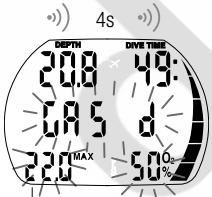
Failed or interrupted switch

MOD gas 1

No change of gas mixture:

If a diver fails to confirm the change of gas mixture or interrupts the switching procedure by pressing , Aladin displays "GAS 1", the MOD and the oxygen fraction for 5 seconds. Aladin continues to calculate with gas 1 only and adapts the decompression calculation accordingly.

If after the decompression calculation has readjusted itself to reflect the failed switch the diver goes again below the switch depth (MOD of gas D), Aladin will revert to the decompression calculation that considers gas D also, since upon ascending again the diver will have a renewed opportunity to perform the switch once the switch depth is reached.



Switching process initiated

MOD gas d

Belated change of gas mixture:

A diver can catch up on a required change to gas D until he reaches the surface.

1. Initiate the switching process by pressing . Aladin displays "GAS d", MOD and the oxygen fraction of gas D blinking for 30 seconds.
2. Switch to the regulator with the deco gas mixture and start breathing.
3. Confirm the change by pressing . "GAS d" and the oxygen fraction of the deco gas is displayed for 5 seconds without blinking. The decompression calculation will readjust accordingly. (Press to interrupt the switch process at any time.)

Submerging again after a change to gas D:

If after a change to gas D the Maximum Operating Depth (MOD) of gas D is exceeded, the ppO_2 max warning will appear ->25.

Change back to gas 1, which is suited for this depth, or rise to the Maximum Operating Depth of gas D. Failure to do so can result in oxygen poisoning.

1. Initiate the switching process by pressing . Aladin displays "GAS 1", MOD and the oxygen fraction of gas 1 for 30 seconds.
2. Switch to the regulator with gas 1 and start breathing.
3. Confirm the change by pressing . "GAS 1" and the oxygen fraction of gas 1 is displayed for 5 seconds without blinking. Afterwards the decompression calculation will readjust accordingly.

VII Dive planner

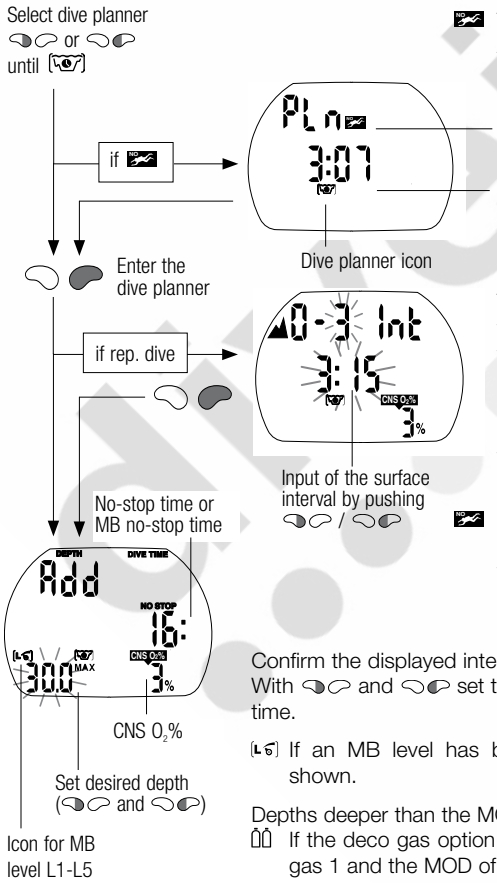
Aladin has a dive planner which allows the planning of no-stop dives and decompression dives.

Basis of the planning:

- selected fraction of oxygen and MOD
- selected water type
- selected MB level
- water temperature of the most recent dive
- altitude range (if any)
- status of saturation at the time the dive planner is selected
- assuming a normal workload of the diver and observance of the prescribed ascent rates
- assumption: the change to gas D is performed at the selected MOD of gas D.

1 Planning a no-stop dive

To select the dive planner Aladin must be in user mode (**time of day display**). Push or or until the symbol for the dive planner appears. (The dive planner cannot be selected in gauge mode.)



The no-dive warning and its duration are displayed if Aladin detects an increased risk due to the accumulation of microbubbles.

Enter the dive planner with .

The input window for the time interval is displayed if there was a remaining desaturation (DESAT) before the dive planner has been selected. This surface interval between now and the beginning of the dive can be changed with and in steps of 15 minutes. Aladin displays the CNS O_2% value and the altitude section to which you may not rise at the end of the selected surface interval.

If the no-dive warning and its duration has been displayed, Aladin proposes this time – rounded up to the next 15 minutes – as surface interval. If the proposed interval is shortened, the no-dive warning appears.

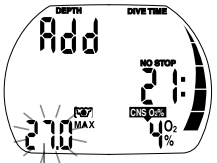
Confirm the displayed interval with (if applicable).
With and set the depth for which you want to know the no-stop time.

If an MB level has been selected (L1-L5), the MB no-stop time is shown.

Depths deeper than the MOD for the selected gas (O_2 mix) are not displayed.
If the deco gas option is turned on, only the depth between the MOD of gas 1 and the MOD of gas D are displayed.

On page 28 you will find further information and safety considerations regarding the no-dive warning.

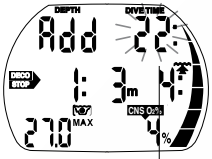
2 Planning a decompression dive



Confirm the desired depth with

1. Activate the dive planner for a no-stop dive ->41.

2. Set the desired depth with and , then switch into decompression planning by pushing . Aladin shows the bottom time (no-stop time + 1 minute) and the appropriate decompression information or level stop data respectively.



Set desired bottom time with and

3. "Add" asks that you set the bottom time. This is done with and . Aladin calculates the decompression information for this set bottom time. If an MB level (L1-5) is selected, Aladin calculates the level stop data.

CNS O_2% values higher than 199% will be displayed as 199 %.
Ascent time greater than 99 minutes is displayed as " – – "
Deco stop depth deeper than 27m (90ft) is displayed as " – – : – – "
CNS O_2 equal or greater than 75%: CNS O_2% symbol starts flashing
CNS O_2 equal or greater than 100%: CNS O_2% symbol and CNS O_2% value are flashing.
MB level stop deeper than 27m (90ft): MB level will be reduced.

3 Leaving the dive planner

By pushing once or twice you can exit the dive planner. This also occurs after three minutes without operation.

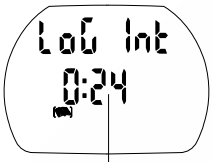
1 Survey

A dive is entered in the logbook if the dive time is longer than 2 minutes. Aladin records the profiles of about 25 hours of diving. This information can be transferred to a PC with the standard infrared interface (IrDA) and the Windows® software SmartTRAK. All dives in the memory can be displayed directly on the dive computer.

2 Operation

From the **time of day display** you can select the logbook with .

until



Surface interval

If there was a remaining desaturation time (DESAT) before selecting the logbook, the time since the last dive (surface interval) is displayed.

With you enter the logbook.
The most recent dive is displayed (dive number 1).
There are 3 pages for each dive.

Page 1

Logbook icon
Max depth
Dive time
Battery performance
Dive number
O_2 mix
Date of the dive

From here you can:

a) get more information about the displayed dive by pushing (see below)

b) select other dives.
Each time you push or causes a jump to the next or previous dive.
At the end of the logbook Aladin displays statistic information ->44.

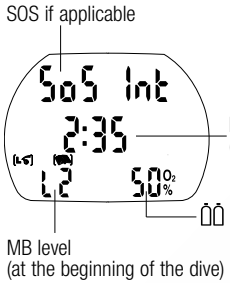
Aladin displays further information about the selected dive.

Page 2

Altitude range (if >0)
Repetitive dive number
Starting time
CNS value at the end of the dive
Minimum temperature

Push to get more information about the dive.

Page 3


SOS if applicable
SoS Int
2:35
Duration of surface interval (only with repetitive dives)
L2
50
O2 %
O2 mix deco gas (if a switch has taken place during the dive)
MB level (at the beginning of the dive)

If a dive is started within adaptation time (after a change of altitude), the adaptation time is displayed instead of the surface interval.

Further possible information about the dive:

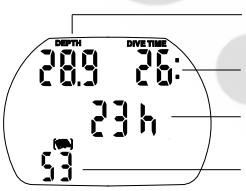
- Too fast ascent* (page 1)
- DECO STOP — Ignored decompression stop* (page 1)
- SoS — Ignored decompression stop* (page 3)
- GAUGE SoS — Diving in SOS mode (gauge mode) (page 3)
- Altitude range (page 2)
- MB level dive (L1-L5) (page 3)
- STOP — Ignored MB level stop* (page 1)
- DESAT — Desaturation was reset before the dive (in "set 1") (page 1, 2)
- DESAT — Desaturation was reset before the dive by removing the battery (page 1, 2)
- Battery quality factor has been 3 bars or less during the dive (page 1, 2, 3)
- GAUGE — Diving in gauge (page 1, 2, 3)
- AVG — Average depth (gauge mode) (page 3)
- No-dive warning after the dive (page 1)

*Alarms during the dive

gets you back to the dive list (first level screen within logbook). From here you can advance to the next dive of interest and press to retrieve more information about that dive etc.

Statistic information

From the **time of day display** you can get the following statistic information over all dives. Push , and :



Leaving the logbook

By pushing once or twice you can exit the logbook.
The logbook closes automatically after 3 minutes without operation.

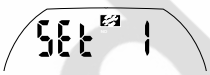
1 Altitude adjustment The altitude adjustment does not affect altitude ranges nor any calculations.

Adjust the altitude indication to your current altitude.

1. Starting from the **time of day display** push ◔ or ◔ until the mountain symbol and the altitude appear.
2. Confirm that you wish to change the displayed altitude by pushing ◔. The altitude starts to flash.
3. Change the altitude in increments of 10m / 50ft by pushing ◔ or ◔.
4. Confirm the selected altitude with ◔.

2 Menu "set 1" With menu "set 1" or SmartTRAK you can configure the following items (dive functions):

Setting	Range	Default	Page
• Depth alarm	5 - 100m (20 - 330ft) on/off	40m (130ft), off	45
• Dive time alarm	5-195min, on/off	60min, off	46
• Safety stop duration	1-5min	3 minutes	46
• Maximum partial pressure of oxygen (ppO_2 max)	1.2-1.6bar	1.4bar	46
• Time limit to reset the O_2% mix to air	no reset / 1 - 48hrs	no reset	42
• Deco gas	on/off	off	46
• Unit system	metric/imperial	on (salt water)	46
• Water type	on (salt water) / off (fresh water)	6s	46
• Backlight illumination duration	2-12s; push on / push off	on	47
• Audible attention signals	on / off (SmartTRAK: selective)	on	47
• Water contacts	on / off	no reset	47
• Reset desaturation	on / off		47

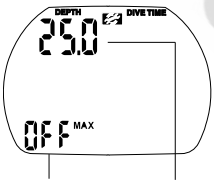


Starting from the **time of day display** push ◔ or ◔ until "set 1" appears.

Confirm that you wish to enter into the menu of "set 1" by pushing ◔.

Once entered into the menu you can scroll with ◔ and ◔ through the menu.

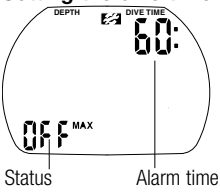
Setting the depth alarm



1. Confirm that you wish to change the depth of the alarm or to switch it on or off by pushing ◔. The depth starts to flash.
2. Change the depth in increments of 1 m/5 ft by pushing ◔ or ◔.
3. Confirm the selected depth with ◔. "On" or "Off" starts to flash.
4. "On" indicates "activated", "Off" indicates "deactivated". ◔ switches between "On" and "Off". Confirm the selected status with ◔.

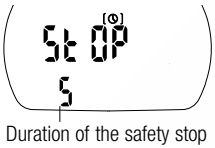
See also page 23.

Setting the dive time alarm



1. Confirm that you wish to change the time of the dive time alarm or to switch it on or off by pushing ⟲●. The alarm time starts to flash.
2. Change the alarm time in increments of 5 minutes by pushing ◑⟲ or ⟲◐.
3. Confirm the selected alarm time with ⟲●. "On" or "Off" starts to flash.
4. "On" indicates "activated", "Off" indicates "deactivated".
   Switch between "on" or "off" by pressing ⟲◐.
   Confirm the selected status with ⟲●. See also page 22.

Setting the safety stop duration



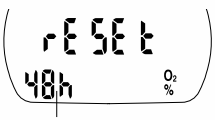
1. Confirm that you wish to change the duration of the safety stop by pushing ⟲●. The duration starts to flash.
2. Change the duration in increments of 1 minute by pushing ◑⟲ or ⟲◐.
3. Confirm the selected duration with ⟲●.

Setting the maximum partial pressure of oxygen (ppO_2 max)

1. Confirm that you wish to change the ppO_2 max by pushing ⟲●. The current value starts to flash.
2. Change the value in increments of 0.05bar by pushing ◑⟲ or ⟲◐.
3. Confirm the selected value with ⟲●.

The ppO_2 max setting is valid for gas 1 and the deco gas.

Setting the time limit to reset the O_2% mix to air

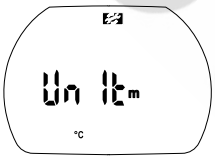


1. Confirm that you wish to change the time limit of the reset by pushing ⟲●. The current setting starts to flash.
2. Change the time limit by pushing ◑⟲ or ⟲◐.
   (1 - 48hrs or no reset: "– – h")
3. Confirm the selected value with ⟲●.

Enabling two-gas diving

1. Confirm that you wish to enable two-gas diving by pushing ⟲●. "On" or "off" starts to flash.
   "On" indicates the deco gas is active, "off" indicates that only gas 1 will be used for decompression calculations.
2. Switch between "on" and "off" with ⟲◐.
3. Confirm your choice with ⟲●.

Selecting the units



1. Confirm that you wish to change the units by pushing ⟲●. The selected units are displayed (m / ft / °C / °F).
2. Push ⟲●. "m" or "ft" starts to flash.
3. Switch with ⟲◐ between "m" and "ft".
4. Confirm the selected unit with ⟲●. "°C" or "°F" starts to flash.
5. Switch with ⟲◐ between "°C" and "°F".
6. Confirm the selected unit with ⟲●.

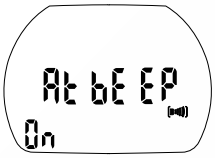
Selecting the water type

1. Confirm that you wish to change the selected water type by pushing ⟲●. "On" or "off" starts to flash.
   "Salt on" indicates salt water, "salt off" indicates fresh water.
2. Switch with ⟲◐ between "salt on" and "salt off".
   Confirm the water type with ⟲●.

Setting the backlight duration

1. Confirm that you wish to change the duration of the backlight illumination by pushing . The value starts to flash.
2. Change the duration with . (2-12s or push on/push off)
3. Confirm it with .

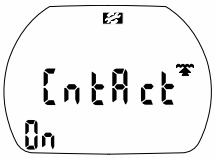
Switching the audible attention signals on and off



With this option you can switch off the audible attention signals only (the audible alarms remain active). Refer to page 19 to see this distinction.

1. Confirm that you wish to change the setting of the audible attention signals by pushing . "On" or "off" starts to flash.
2. Switch between "on" or "off" by pressing .
3. Confirm the setting with .

Switching the water contacts on and off



On submerging in water the water contacts switch on Aladin automatically.

WARNING

If you chose the option "Water contacts off", Aladin will turn on with a delay of up to 1 minute into the dive. This will affect functioning of the computer. Make sure that the computer is on before starting the dive.

1. Confirm that you wish to change the setting of the water contacts by pushing . "On" or "off" starts to flash.
2. Switch between "on" or "off" by pressing .
3. Confirm the setting with .

Resetting the remaining saturation

WARNING

Diving after a reset of the remaining saturation may lead you into potentially hazardous situations which could result in death or serious injury.
After a reset of the remaining saturation do not dive for at least 48 hours.
If you dive after resetting the remaining saturation the computer will miscalculate your decompression, which may result in serious injury or death.
Reset the remaining saturation only if you know you will not be diving, flying or going to higher altitude for the next 48 hours.

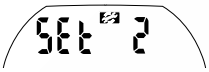
Resetting the desaturation should only be done when there is a valid reason, e.g. loaning the computer to somebody who has not dived in 48 hours or more. When the computer itself has remaining saturation you must assume full responsibility for the consequences of resetting the remaining saturation.

1. Confirm that you wish to reset the displayed saturation by pushing . "On" starts to flash.
2. Switch between "on" or "off" by pressing .
3. Confirm the setting with . If you have selected "off", "Code" and "000" appear.
4. Set the first digit by pushing and . Confirm with .
   Repeat point 4 for the next 2 digits. If you entered the right code the desaturation will be reset to zero (desat off)
   Code: 313

3 Menu set 2

With menu "set 2" or SmartTRAK you can configure the following items:

Setting	Range	Default	Page
• Alarm clock	0 - 23h 59min, on/off	12:00, off	48
• UTC zone	±13hrs, increments: 15min		48
• Time of day	hours:minutes		48
• 24 or AM/PM setting	24 (off) / AM/PM (on)		49
• Date			49
• Display contrast	1 (low) -12 (high)	4	49
• IrDA speed (set 2 only)	low / high	low	49
• Sound	on / off	on	50
• Show Aladin electronic ID			50



Starting from the **time of day display** push ◔◔ or ◔◔ until "set 2" appears.

Confirm that you wish to enter into the menu of "set 2" by pushing ◔◔.

Once entered into the menu you can scroll with ◔◔ and ◔◔ through the menu.

Setting the alarm clock time

The alarm clock goes off only at the surface. "Sound" must be turned "on" in "set 2".

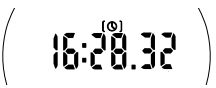
1. Confirm that you wish to set the alarm time by pushing ◔◔.
   The hours start to flash.
2. Set the hours by pushing ◔◔ or ◔◔.
3. Confirm the setting with ◔◔. The minutes start to flash.
4. Set the minutes by pushing ◔◔ or ◔◔.
5. Confirm the setting with ◔◔. "On" or "off" starts to flash.
6. "On" indicates "activated" (**time of day display** shows)), "off" indicates "deactivated".
   Switch between "on" or "off" by pressing ◔◔.
7. Confirm the selected status with ◔◔.

Setting the UTC offset (coordinated universal time)

This setting allows you to quickly set the watch to a new time zone without affecting the actual time setting.

1. Confirm that you wish to set the UTC offset by pushing ◔◔.
   The hours start to flash.
2. Set the hours by pushing ◔◔ or ◔◔ (±13hrs).
3. Confirm the setting with ◔◔. The minutes start to flash.
4. Set the minutes in increments of 15 minutes by pushing ◔◔ or ◔◔.
5. Confirm the selected status with ◔◔.

Adjusting the time of day

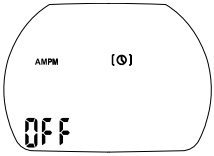


Time of day

You can adjust it to your time zone either in this menu or using the UTC offset (see above).

1. Confirm that you wish to adjust the time of day by pushing ◔◔.
   The hours start to flash.
2. Set the hours by pushing ◔◔ or ◔◔.
3. Confirm the setting with ◔◔. The minutes start to flash.
4. Set the minutes by pushing ◔◔ or ◔◔.
5. Confirm the setting with ◔◔.

Selecting 24 hours or AM/PM setting



1. Confirm that you wish to change the setting by pushing . "On" or "off" starts to flash.
2. Switch with between "on" (AM/PM) and "off" (24h).
3. Confirm the setting with .

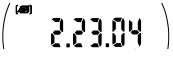
The 24h - AM/PM setting influences the display of the date (see below).

Adjusting the date

Date (24h setting)

Day / Month / Year

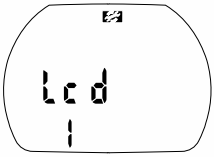
Date (AM/PM setting)



Month / Day / Year

1. Confirm that you wish to adjust the date by pushing .
   The first day (month) starts to flash.
2. Set the day (month) by pushing or .
3. Confirm the setting with . The month (day) starts to flash.
4. Set the month (day) by pushing or .
5. Confirm the setting with . The year starts to flash.
6. Set the year by pushing or .
7. Confirm the setting with .

Adjusting the display contrast



1. Confirm that you wish to adjust the display contrast by pushing .
   The current setting starts to flash.
2. Set the contrast by pushing or .
   Low contrast: (1), high contrast: (12)
3. Confirm the setting with .

Selecting the IrDA speed

The default setting is low. For faster downloads you can set it to high, but not all IrDA interfaces are compatible with high.

1. Confirm that you wish to change the IrDA speed by pushing . "Lo" (low) or "hi" (high) starts to flash.
2. Switch with between low and high.
3. Confirm the setting with .

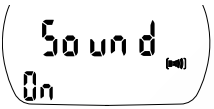
Low: 9600 bits/second High: max 57 600 bits/second

divein scubastore

Switching the sound on and off

WARNING

If you turn off the sound, the buzzer is effectively deactivated. You will have no audible warnings (alarms and attention messages)! Without audible warning you could get into potentially hazardous situations, which could result in death or serious injury.
You must assume full responsibility for turning off the sound.



1. Confirm that you wish to change the setting by pushing . "On" or "off" starts to flash.
2. Switch with between "on" and "off".
3. Confirm the setting with . If you have selected "off", "Code" and "000" appear.
4. Set the first digit by pushing and . Confirm with .
   Repeat point 4 for the next 2 digits. If you entered the right code the sound will be turned off.

   Code: 313

Setting the "sound" to "off" applies also to surface functions (mountain alarm, wake-up alarm, change of altitude range).

Showing the hardware electronic ID of Aladin

ID Number

This number is needed when reporting problems or for other maintenance related issues.

1 Technical information

Operating altitude: with decompression information: sea level up to approx. 4000m (13000ft); without decompression (gauge mode): unlimited

Max displayed depth: 120m (395ft), resolution between 0.8m and 99.9m: 0.1m, >99.9m: 1m. The resolution in feet is always 1 foot.

Decompression calculation depth range: 0.8 to 120m (3 to 395ft)

Maximum environment pressure: 13bar (189psi)

Clock: Quartz clock, time, date, dive time display up to 199 minutes.

O_2 concentration: Adjustable between 21% O_2 (compressed air) and 100% O_2

Operating temperature: -10° to +50°C (14°F to 122°F).

Power supply: CR2450, recommended brands: PANASONIC, DURACELL, RENATA, ENERGIZER, SONY, VARTA.

Life of the battery: 2-3 years or 200-300 dives. Actual life of the battery depends on the quantity of dives per year, the use of the backlight and the length of the dives. In cold water the life of the battery is reduced. Not all CR2450 batteries are the same, and low quality batteries can have very short life.

2 Maintenance

Aladin is virtually maintenance free. All you need to do is to rinse it carefully with fresh water after each use and to have the batteries changed when needed ->51. To avoid possible problems with your Aladin, the following recommendations will help assure that it will give you years of trouble free service:

WARNING

- Avoid dropping or jarring your Aladin.
- Do not allow your Aladin to be exposed to direct, intense sunlight.
- Rinse your Aladin thoroughly with fresh water after each dive.
- Do not store your Aladin in a sealed container; make sure there is free ventilation.
- If there are problems with the water contacts, use soapy water to clean Aladin and dry it thoroughly. The surface of your Aladin housing can be treated with silicone grease. Do not apply grease to the water contacts!
- Do not clean Aladin with liquids containing solvent (apart from water).
- Check the battery capacity before each dive ->15.
- If the battery icon appears, replace the battery ->51.

- Diving with a weak battery: Aladin may stop working during the dive, service icon and error code "E3" or "E6" appear. Close the dive and replace the battery ->51.
- On the surface: if service icon and error code "E3" appear, replace the battery ->51.

  All error codes other than E3: Aladin must not be used for any further dives. Take your dive computer to an authorized SCUBAPRO UWATEC dealer.

2.1 Replacing the battery (Battery kit 06.201.919 includes battery and Teflon coated o-ring)

WARNING

Removing the battery clears all physiological data including saturation. This means that for a repetitive dive the computer will not compute correctly. Diving after replacing the battery when there is desaturation time left on the computer can lead to serious injury or death from decompression sickness. Change the battery only under these conditions:

- After a dive if you know you will not be diving, flying or going to higher altitude for the next 48 hours.
- Before a dive if there is no desaturation time left on the computer.

  The change must be made with particular care in order to prevent water from seeping in. The warranty does not cover damages due to an improper replacement of the battery.

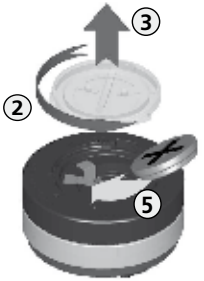
WARNING

Never touch the metal surface of the battery with bare fingers.
The two battery poles must never be short circuited.

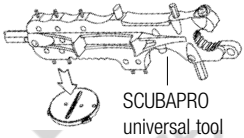
Procedure:
To replace the battery you need a coin or the SCUBAPRO universal tool and a clean cloth.

WARNING

- A leaking battery cap may lead to the destruction of Aladin by water seeping in or cause Aladin to switch off without prior notice.
- Always open the battery compartment in a dry and clean environment.
- Only open the battery compartment to replace the battery.



1. Dry Aladin with a soft towel.
2. Turn the battery cap with a coin or with the SCUBAPRO universal tool.
3. Remove the battery cap.
4. Remove the o-ring carefully. Do not damage the sealing surfaces.
5. Remove the battery. Do not touch the contacts.



Protect the environment and dispose the battery properly.

WARNING

If you notice traces of seeping water, damages, or other defects on the o-ring, do not use Aladin for further dives. Take it to an authorized SCUBAPRO UWATEC dealer for check and repair.

6. Always insert a new o-ring when you replace the battery and dispose the old o-ring. Make sure that the new o-ring is in perfect condition, and that o-ring, o-ring groove and the sealing surfaces are free of dust and dirt.
   If necessary, clean the parts with a soft cloth. Fit the o-ring in the o-ring groove of the battery cap.

WARNING

7. Use only an original UWATEC o-ring PN 06.201.610. This o-ring is Teflon coated and does not require additional lubrication.
8. Do not lubricate the o-ring as the lubricant will chemically attack the battery cap.

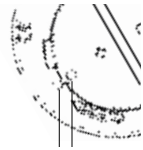
WARNING

9. Check the proper polarity of the battery. Aladin can be damaged if you do not insert the battery correctly.
   Insert the new battery, with "+" pointing outwards, into the battery compartment.

After battery replacement Aladin will perform an automatic test (8s) and gives a short beep when the test is done.

WARNING

10. The battery cap can be installed with a ±120° offset. The alignment circles are there to ensure proper positioning of the cap. If the rotation is stopped before alignment, watertightness may not be ensured. If the rotation is forced beyond the alignment, the cap may break. Damage to Aladin due to improper placement of the battery cap is not covered by warranty.



Push the battery cap firmly down and turn it clockwise until the two circles are aligned.

11. Check Aladin by switching on ->13.

3 Warranty

The warranty only covers dive computers which have been bought from an authorised SCUBAPRO UWATEC retailer. The warranty is given for a period of two years. Repairs or replacements during the warranty period do not increase the warranty period. In order to put forward a warranty claim: send the dive computer together with a dated receipt of the purchase to your authorised retailer or an authorised servicing point. UWATEC reserves the right to determine the merits of a warranty claim and to determine whether the computer will be repaired or replaced.

Excluded are faults or defects due to:

- excessive wear and tear;
- exterior influences, e.g. transport damage, damage due to bumping and hitting, influences of weather or other natural phenomena;
- servicing, repairs or the opening of the dive computer by anybody not authorised by the manufacturer;
- pressure tests which do not take place in water;
- diving accidents;
- improper placement of the battery cap.

Your UWATEC dive instrument is manufactured with high-quality components, which can be recycled and reused. Customers living in the European Union can contribute to the protection of environment and health, by returning old products to an appropriate collection point in your neighborhood according to EU Directive 2002/96/EC. Products marked with the recycling symbol to the left must not be placed in the normal household waste.

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